

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 9, 1834.

[VOLUME III.—No. 31.]

CONTENTS :

Improved Wheels for Railroad Cars; Portsmouth and Roanoke Railroad; New Route to Mobile and New Orleans; Swedish Roads; &c.....	page 381
Improved Railroad Car; The Rhine; On the Phenomena of Flame.....	482
New Locomotive Engine; Burden's Boat, &c.....	485
Animal Mechanics, &c., (continued).....	486
Agriculture, &c.....	487
Meteorological Record.....	488
Literary Notices.....	488
Foreign Intelligence.....	491
Summary.....	492
Foreign Items.....	495
Advertisements.....	496

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 9, 1834.

IMPROVED WHEELS FOR RAILROAD CARS.—

We have in our possession, which may be seen at any time, a piece of the rim of a Railroad Car Wheel, made upon a plan which we think will prevent accidents which sometimes occur from the failure or breaking of a wheel, when going at high speed. The wheel is entirely of cast iron, except a hoop of half inch wrought iron wire, enclosed or cast in the rim of the wheel, and which, even in case of the fracture of the cast iron, prevents the wheel from falling apart until another can be supplied. It serves also to produce an equal chill, or degree of hardness, in the cast iron, which, we are told, has heretofore been difficult to attain, in consequence of the increased thickness, or body of material, at the curve forming the flange—the point where this rod, or hoop, is enclosed—and thereby prevents the more rapid wear of that, than the other part of the rim. The introduction of this wrought iron must, we think, produce beneficial results, unless it should, as it may in some instances, produce imperfection in the cast iron; to detect which, should it exist, the wheel must in all cases be subjected to a severe test.

The part left at this office is of a wheel broken with a sledge, to test its utility. The cast iron was broken in many places, yet the wheel kept its shape, and could only be separated by cutting the rod with a cold chisel—which had, in the operation of casting, become annealed.

We find, on reference to the last annual report of the President of the Baltimore and

Ohio Railroad Co. that they have been introduced on that road, and are thus spoken of by him: "Besides the improvements in the locomotive engine, others have been made in the machinery used by the company, and particularly in the construction of the wheels of the cars—by which an iron rod is introduced into the wheel when cast, which not only adds to the hardness of the surface, by perfecting the chill, but increases, in a great degree, the safety of the wheel itself."

With such testimony in its favor, we may, with great confidence, recommend it to railroad companies in want of wheels, either for passenger or freight cars, as we do, and would refer them to Mr. Dean Walker, care of Messrs. J. W. & E. Patterson, Baltimore.

Mr. Walker, we are informed, is the patentee and manufacturer, and offers to supply wheels of this description on as reasonable terms as they can be supplied without the rod, and also to have them proved before they are paid for.

PORTSMOUTH AND ROANOKE RAILROAD, Va.

—This road is now complete and in use 17 miles, to Suffolk. Passengers and freight pass daily on it. Horse power is used at present, yet so level is the route, that the distance is performed in about two hours and a quarter. The following is from a Norfolk paper of July 30th.

We invite attention to the notice in our advertising columns, respecting the running of the Cars on the Railroad between Portsmouth and Suffolk. The train is now in regular operation, and those who desire it may be gratified with a ride on the Railroad, without the inconvenience of a preliminary walk of a mile and a half to the depot, as carriages are in waiting at the ferry wharf in Portsmouth, every morning, at the proper hour, for the accommodation of passengers from Norfolk. The cars for the present are drawn by horses; but passengers are carried at a speed (in comparison with the swiftest travelling on the stage road) beyond all example. The distance is run in from two to two and a half hours, including stoppages.

NEW ROUTE TO MOBILE AND NEW-ORLEANS.

—We have noticed that efforts were making to open a new and less difficult route for tra-

vellers between the Atlantic cities and Mobile, New-Orleans, and the far south, but were not until very recently aware of the precise route selected, nor of the means by which it is designed to be effected. We have now before us, however, a map of the route, and understand that it is the intention of some enterprising gentlemen to establish a line of steamboats from Savannah, Geo., to the head of navigation on Black Creek, a tributary to the river St. Johns, and another line from the head of navigation on the Santafty or Santa Fe, (a tributary to the Suwanney or Little St. Johns, emptying into the Gulf of Mexico,) and Mobile, to be connected by a line of good stages between those two points, a distance of only 41 miles, and on an uncommonly favorable location for a road—indeed, the same route designated by the Government engineers for a canal.

The following extract will give a better view of the route. We shall refer to the subject again.

"Black Creek has a clear navigation of 17 miles, and probably higher up the river, and if so, the route of the Road will be shortened.

"The present circuitous road, from Ganey's to Summerlin's, is reputed to be from 50 to 56 miles. It is, besides, badly located, because, at the East, from Ganey's to Monroe's (15 miles,) passes through a region hilly, broken, scrubby, and sandy; whilst at the West, from Newmanville to Summerlin's, it passes through a region, 7 miles, of a hilly, broken, and rocky surface, unfavorable to the speed of stage coaches.

"Santafty river is wider than Black creek, and has a navigable stream of 28 miles, by its windings from the Suwanney to the Natural Bridge, except in dry weather, when the waters are unusually low, and then to within two miles, where there is a slight obstruction of loose stones, which may be removed at little expense; and below this place, there is also some drift timber to be removed."

At the instance of the Mississippi and Atlantic Railroad Company, the Secretary of War has sent Col. Long, of the U. S. Civil Engineers, to examine into and report upon the practicability of a Rail road from Memphis, on the Mississippi, to Charleston, S. C. A part of the country which has been already examined, is said to be quite favorable for the construction of the work in question.

Swedish Roads.—The roads in Sweden are uncommonly beautiful and excellent. The surveyors never allow a stone to be used larger than a walnut. Their roads appear flat—but have a slight convexity. —[Knickerbocker.]

The following communication refers to a subject of much importance to this community—and it will probably attract the attention of those who are particularly engaged in the construction of railroads and railroad carriages. We hope soon to have a further account of these cars.

Bolivar, Ten., July 2, 1834.

To the Editor of the Railroad Journal.

SIR,—I am much obliged to you for the promptness with which you sent me your Journal for the last eleven or twelve months. I am much pleased with it; and, whenever an opportunity occurs, shall endeavor to induce others to add their names to your subscription list. I have glanced over the contents of these numbers with a view of finding something on the subject of railroad cars; but all attention seems to be absorbed in the improvement of locomotive engines, and the construction of roads, railing, &c., leaving out of view the car, the great connecting link in the chain of improvements. I will, therefore, introduce to the notice of the public, through the medium of your valuable journal, an improved car, possessing the following properties, viz.: 1st, Of carrying double the weight drawn by a horse or engine upon the ordinary car; 2d, of turning a curve with mathematical accuracy; 3d, of running more steadily and accurately upon a straight line than the common car; 4th, of possessing greater safety for passengers; and 5th, of being less liable to run off the rails. By the first of these improvements, a locomotive engine of three tons weight can transport a load which now requires a six-ton engine. By the second, a train of cars of any required number can pass a curve of large or small radius down to one hundred feet, with slight or no difference from the facility of following a straight line. The conical surface is not resorted to for this purpose. By the third, that see-sawing motion caused by "the self-adjusting conical wheel," in its constant effort to keep the axle in a line at right angles with the railing, or rather its tendency to deviate from that line, will be obviated.

I mention these results in order not to be misunderstood. I wish to state the effect and object, without aiming at any description of this car.

In making these statements I am fully aware how far I am falling in the way of incredulity, before the public have had an opportunity of witnessing the experiments, or of knowing the principles upon which they are founded; but I make them under a conviction based upon geometrical demonstration and mathematical estimate, combined with actual experiment, and therefore speak with a confidence derived from sure sources.

Any company wishing for this increase in the power of locomotion, and accuracy in the movement of the cars upon their road, by giving me official notice thereof, shall soon be satisfied that what I have said is no fiction; or, if I fail, the cost shall be all mine.

It may be proper to add that this car can be made as strong, as durable, as commodious, for freight or passengers, and, as I think, as cheap, as the ordinary car. I am not positive what the comparative cost of the two may be, but believe they will vary but little.

Your opinion, as well as that of experienced engineers, upon the utility of such an improvement, is respectfully solicited. Yours, &c., S. BAILEY.

The Rhine.—The scenery of Switzerland may now be reached in a few days, at a very moderate expense, and by a most beautiful route. The steam communication from London to Strasbourg is complete, and another line of steamboats forward the traveler to Basle. In the course of the voyage from London to Strasbourg the tourist visits the city of Rotterdam, celebrated for its pictures and antiquities; Coblenz and Mayence, two of the strongest fortresses in Europe; and passes through the scenery of the Rhingau, and by the mouth of the romantic

Mayne and the beautiful Nechar. Above Strasbourg the banks of the river are not less charming all the way to Basle.

On the Phenomena of Flame. By J. O. N. RUTTER, Esq. [From the London Mechanics' Magazine.]

"As in mathematics, so in natural philosophy, the investigation of difficult things by the method of analysis ought ever to precede the method of composition. This analysis consists in making experiments and observations, and in drawing general conclusions from them by induction, and admitting of no objections against the conclusions but such as are taken from experiments, or certain other truths. For hypotheses are not to be regarded in experimental philosophy."—[Sir Isaac Newton.]

The design of the following paper is to bring together a variety of experiments which may be considered as illustrative of the phenomena of flame. By applying to them the canon of philosophical research so beautifully described by Newton, we may, perhaps, arrive at conclusions at once instructive and satisfactory. It is very agreeable, and sometimes very convenient, to take shelter beneath the influence of great names. This love of ease, when the investigation of an intricate subject is concerned, tends very often to perpetuate error. Whenever acknowledged difficulties present themselves, they ought to be fairly met, rigidly examined—and, if possible, immediately removed. A course the very opposite to this is frequently pursued by very excellent and very learned men; among whom are some of the most popular scientific writers of the present day. With book-makers it is a common practice to transfer the opinions, and, in many cases, the very words of others, to their own columns, without examination; and, not unfrequently, without acknowledgment.

As the papers of Sym and Davies on flame, referred to by Dr. Thompson, in his Treatise on "Heat and Electricity," 8vo. London, 1830, p. 310, are not accessible to me, I have no means of ascertaining whether the following experiments have or have not been already described. If I have been anticipated in the whole of these investigations,* I can see no reason for rejecting or undervaluing, on that account, the information they supply.

1. If a piece of wire-gauze be brought down gradually upon the flame of a taper, or candle, the section of the flame, when viewed from above through the wire-gauze, will appear as a ring of light surrounding the wick, but not in contact with it.

2. A jet of coal gas will present a similar appearance. The orifice of the jet may be very distinctly seen in the interior of the flame.

3. If the wire-gauze be brought down in the way already mentioned upon a flame of coal gas, issuing from an Argand burner, the section of the flame will exhibit two distinct rings of light, and the thickness of the burner will determine the distance between the rings.

4. If an Argand lamp, with a wick supplied with oil, be employed, the thickness of the wick will determine the distance between the rings.

5. When the air is excluded from the interior of an Argand burner, the flame, whether it be that arising from gas or oil, which was previously cylindrical, assumes a conical form. Let the wire-gauze be brought

down upon this flame, and there will be, as in the case of the taper, or the jet, (1, 2,) one ring of light corresponding with the exterior surface of the wick, or burner, (3, 4.)

6. The flames of alcohol, and of hydrogen gas, present in every respect the same phenomena as those described (1, 2, 3, 4, 5,) excepting, of course, in the quality of the light.

7. Phosphorus, if inflamed in contact with the atmosphere, and the wire-gauze brought down upon it, exhibits a ring of light. The experiment requires a little caution and dexterity. The opacity of the interior of the flame may, however, be very distinctly recognized.

8. If we take about three fourths of an inch of wax taper, insert it in a piece of glass tube the same length, employing as a foot to the taper so inclosed a disc of cork, sufficiently large to keep it steady; then, in a saucer or evaporating dish, coil some filaments of lamp cotton, so as to form a ring about two inches in diameter, and three fourths of an inch in height; saturate the ring of cotton with alcohol, light the taper, place it in the centre of the ring and inflame the alcohol, the taper will be extinguished. The heat in the interior of the flame of the alcohol will be sufficiently intense to vaporise the wax, which vapor will be decomposed and inflamed at the summit of the alcoholic flame, imparting to it a characteristic brilliancy; but the wick of the taper will not be inflamed if the process be properly conducted. To insure success in this experiment, we must guard against any agitation in the surrounding atmosphere, by moving about the room, opening or shutting doors, or breathing too freely in the immediate vicinity of the alcoholic flame. After observing all these precautions, we shall probably find that the flame will be in a continued flutter, occasioned by a current of rarefied air, and the taper will be alternately extinguished and relighted, just in proportion as the unsteadiness of the flame prevails or subsides.

9. Instead of a taper (8), if we place a piece of phosphorus in a small metallic spoon,* inflame it and pass it into the interior of the alcoholic flame, the phosphorus will be extinguished; suddenly withdraw it, it will inflame; pass it again into the interior, and it will again be extinguished.

The phosphorus, as already remarked of the taper, may be vaporised; and the vapor will become luminous as it enters into combination with oxygen at the summit of the alcoholic flame. Should it happen that the phosphorus has not been properly dried, small particles of it will be thrown out on every side: these will inflame the instant they come in contact with the external atmosphere.

10. We may vary this experiment by placing in the interior of the alcoholic flame (9) a small metallic cup,† containing alcohol, ether, or spirit of turpentine. These materials may be vaporised, but they will not flame in the cup as long as the alcoholic flame preserves its conical form.

11. If phosphorus (9) be placed in the centre of the flame of an Argand burner, (3, 4,) to which atmospheric air has access, it will inflame. If the further ingress of air be

* I observe that Mr. Watson, Mechanics' Magazine, No. 551, page 362, has anticipated one of my experiments. I am hence induced to hold them all with a loose hand.

* A spoon for this purpose may be conveniently formed by flattening one end of a piece of copper wire.

† For cheapness and convenience, say part of a child's thimble.

prevented, the flame will become conical (5), and the phosphorus will be extinguished.

12. The result will be still more instructive, if we repeat the last experiment in an Argand burner supplied with coal gas, the ingress of air to its interior being prevented. Let the phosphorus be ignited and passed into the interior of the gas flame, the phosphorus will be extinguished. Turn off the gas, the phosphorus will be inflamed; turn on the gas, that will be inflamed, whilst the phosphorus will be again extinguished (10). If we employ alcohol, ether, or spirit of turpentine, in an Argand burner, supplied with oil, or coal gas, the results will be more uniform and satisfactory than with a large flame of alcohol, for the reason already stated (8).

13. A lighted taper placed in the interior of the flame of an Argand burner will continue to burn so long as air has access to it: exclude the air (5), and the taper will be extinguished. We may vary this experiment by employing a jet of coal gas instead of the taper. The result will be the same in both cases.

14. If a coil of platinum wire be held above the flame of alcohol, the wire will become incandescent. If we pass the wire into the interior of the flame, its incandescence will cease. In this experiment the effect will be more intelligible if we employ a spirit lamp with an Argand wick. The incandescence of the wire may be determined or prevented, by the admission or exclusion of air (11).

15. Instead of an Argand wick we may employ a common fibrous wick of cotton, say one inch in diameter, and it may be supplied with tallow, oil, or alcohol. The phenomena will be the same as those already described (5, 8, 9, 10.)

16. If a stream of oxygen gas be projected from below into the interior of a conical flame (5, 6, 15,) we shall observe the unusual phenomena of one flame within another.

17. A stream of oxygen gas, or of atmospheric air, projected upon any of the materials before mentioned, viz. phosphorus, ether, alcohol, spirit of turpentine, a jet of coal gas, or a taper, will produce an inflammation; but the inflammation will continue in the respective materials only so long as the supply of gas, or of air, is maintained.

18. If any of the materials just enumerated be placed in actual contact with the flames of tallow, oil, alcohol, or gas, whether interiorly or exteriorly, inflammation will ensue; but the combustion of the respective materials will be less perfect and less energetic when enveloped in the flame of some other body than when they are inflamed, under ordinary circumstances, in contact with atmospheric air.

19. The flame of an explosive mixture of coal and oxygen gases is of a pale blue color, and the greater the proportions of oxygen, within the limits of saturation,* the smaller is the flame, and the fainter is its hue, as compared with an equal volume of coal-gas when burning in the usual way. Similar phenomena present themselves in an explosive mixture of coal gas and of atmospheric air. In the latter case, the color of the flame is somewhat deeper.

* I employ this term for want of a better. By the limits of saturation, I mean those proportions of oxygen with coal gas most favorable to inflammation or explosion.

20. It is almost unnecessary to remark, that the flame of an explosive mixture of oxygen and hydrogen gases is of so pale a color as to be scarcely perceptible in daylight. This is not its most remarkable quality.

21. If a stream of hydrogen gas be ignited at the point of a jet, by bringing down upon it a piece of wire-gauze (2), we may ascertain that the flame is hollow. If a stream of oxygen gas be projected from a similar jet, in the same direction, and in immediate contact with the hydrogen, we shall find that, notwithstanding the additional supply of gas, (the proper proportions being half a volume of oxygen to one volume of hydrogen,) the flame will be immediately very sensibly diminished in size, and it will no longer appear hollow. Further: in the flame from hydrogen alone, the greatest intensity of heat will be found near to its extremity, at the apex of the cone. It is not so with the oxy-hydrogen flame—the point of greatest intensity in that being near the base of the cone, where the greatest quantities of the two gases first enter into chemical union.

22. The analysis of coal gas teaches us that when it is of good quality, (sp. gr. 475 h. 550,) each volume will require for its complete combustion nearly two volumes of oxygen: one volume of oxygen, combined with an equal volume of carbon, producing carbonic acid; the other volume of oxygen, by its union with two volumes of hydrogen (condensed into one volume as it exists in carburetted hydrogen,) forming water.

23. The analysis of coal gas also enables us to understand the habits of explosive mixtures, and especially those of carburetted hydrogen (fire damp) and atmospheric air. Thus, when the relative proportions of inflammable gas and of air are as one volume of the former to five volumes of the latter, the mixture is not explosive; but if the quantity of air be gradually increased from five to ten, or even twelve volumes, the mixture detonates with increasing violence at every additional volume of air, up to the point of saturation.*

24. That mixtures of explosive gases, whose relative proportions are adapted to form most readily new compounds, will detonate with the greatest violence; and *vice versa*.

25. Explosive mixtures of coal gas, or carburetted hydrogen, and of oxygen, are subject to the same laws as mixtures of the same inflammable gases with atmospheric air. The former explode more uniformly and more promptly than the latter. This is a result we may expect, since in the former instance the particles of inflammable gas and its supporter must be in more inti-

* See preceding note. As a familiar illustration of these phenomena, we may suppose 100 cubic inches of coal gas to be mixed with 500 cubic inches of atmospheric air. The mixture will not be explosive, because it will not contain a sufficiency of oxygen to support its inflammation—500 inches of air containing only about 100 inches of oxygen—and 100 inches of coal gas requiring 200 inches of oxygen for its complete combustion. If, however, 100 inches of coal gas be mixed with a thousand inches of air, the mixture will be explosive, since it will contain the relative proportions of the inflammable gas, and the supporter most favorable to inflammation or explosion. We know that when coal gas, or the fire-damp of mines, is mixed with air in proportions of one volume of the two former to any number of volumes intermediate between 5 and 10 of the latter, the mixture is explosive, but it is only so to a certain extent. When the proportions of air exceed 12 or 12½ volumes of inflammable gas, the mixture is not explosive—an excess of oxygen having, in this respect, the same effect as its deficiency.

mate union than can possibly happen in the latter instance, through the interference of the azotic gas present in atmospheric air.

26. Those mixtures of explosive gases inflame the most readily through narrow tubes, and the interstices of wire gauze, whose relative proportions are best adapted for forming new compounds. We have no difficulty in understanding how it is that explosive mixtures inflame so readily in narrow tubes and in close vessels, if we bear in mind that the elements of combustion are arranged, in such mixtures, under the most favorable circumstances; and hence they require no aid from fresh accessions of oxygen externally applied.

27. If we apply a blow-pipe to the flame of a candle, a lamp, or a jet of coal gas, we shall find a greater intensity of heat will be obtained by projecting a stream of air across the flame near its base, than by projecting a similar stream across the upper portion or apex of the flame. We may obtain satisfactory proofs that these views are correct, if we consult any intelligent artificer who is in the habit of using the blow-pipe.

28. If we pass a piece of wire gauze across the base of a jet of coal gas (in the blue portion of the flame), the gas will continue to burn above the gauze as well as below it, and no free carbon will be deposited on the under side of the gauze; nor will there be any set at liberty from the flame above the gauze. By passing the gauze upwards, and holding it near to the apex of the flame, we shall perceive a different result. Free carbon will be deposited in abundance on the under side of the gauze, the flame above it will be extinguished, and, as the gauze becomes heated, a dense vapor of carbon will pass through, which may be inflamed.

29. This experiment may be varied, by substituting for a jet of coal gas the flame of a wax taper, a common candle, or an oil lamp. Instead of wire gauze, if we pass a piece of writing paper, or card board, into the blue portion of the flame, it will not be tarnished; we may repeat the same process about half way up the flame, and with the same result; but if we ascend towards the apex of the flame, the paper or the card will be blackened by the deposition of free carbon. Finally: if we hold the paper or card above the flame, it will not be blackened, a proof that no free carbon escapes into the atmosphere.*

30. An equal quantity of oxygen will combine with a given quantity of coal gas, or of carburetted hydrogen gas, under circumstances very dissimilar, and producing in one case a very feeble, and in the other a very brilliant light. Thus, two volumes of oxygen being mixed with one volume of coal gas, and the mixture inflamed as it issues from a jet, the flame will be small, of a pale blue color, and afford a very feeble light (19). One volume of coal gas, with ten volumes of air, will produce a similar effect, the flame being of a somewhat deeper color (19). When coal gas is inflamed in an atmosphere of oxygen gas, the flame is larger than ordinary, and the light from it exceedingly brilliant; and, as already mentioned, the same quantity of oxygen combines with a given quantity of the inflammable gas, as in

* The process of introducing and withdrawing the paper or card must, of course, occupy only a moment. The flame employed should be so trimmed as to be free from smoke.

the two former instances. The resulting compounds are alike in quantity and in character in each case (22).^{*} The phenomena that accompany the combustion of coal gas, under ordinary circumstances, for the purpose of artificial illumination, are so well known that they can need no particular description.

31. If the flame of an explosive mixture of coal gas and oxygen, or atmospheric air, be treated with wire gauze or card board, as already described (28, 29,) it will be found that no free carbon will be liberated at any part of the flame, either within it or above it.

32. If there be projected upon a flame of coal gas a strong current of air, the flame will immediately be diminished in size, and it will exhibit all the properties of the flame of an explosive mixture (19, 31.)

33. In an attentive observation of the combustion of an explosive mixture of coal gas, or carburetted hydrogen and atmospheric air, within a safety lamp, we shall be sure to notice how speedily the flame from the wick will be extinguished. It will not, I suppose, be denied that this is occasioned by the absence of oxygen.

34. It may be ascertained by mere inspection, that the flame of the mixture within the lamp is hollow. Towards the top of the lamp the flame will sometimes assume a more brilliant aspect than at any other part. It more frequently happens, however, that free carbon (smoke) will escape from the top of the lamp.

35. If it be inquired whence arises the luminosity of the flame at the upper part of the lamp, or, in its absence, the free carbon (smoke), already mentioned, I reply, that whilst the explosive mixture burns within the cage, the heat evolved will be sufficient to carry on the evaporation of the oil in the reservoir of the lamp. This vapor occupying, in a partial degree at least, the interior of the flame, will be converted into oil gas; and if there be present in the explosive mixture a large proportion of oxygen, a part of the gas will be decomposed, exhibiting its peculiar brilliancy (45). But should there be only a small proportion of oxygen present, the nascent oil gas will not become luminous, although it may be decomposed, and hence the separation of free carbon (smoke).

36. That the view here taken of the vaporisation of the oil is correct, may be satisfactorily proved, by employing in a similar mixture of explosive gases two safety lamps, one with the wick and the reservoir of oil adapted in the usual way, the other with a temporary wax wick attached to the reservoir, but without any oil therein. The re-lighting of the wick, on the re-admission of oxygen to the lamp containing oil, is, under these circumstances, perfectly intelligible (16, 17.)

37. An explosive mixture will burn tranquilly within a safety lamp, without raising the wire gauze to a temperature that will communicate inflammation to the surrounding atmosphere of explosive gases, so long as that atmosphere remains undisturbed; but if the lamp be exposed to a current of the explosive gases, the flame within the lamp

will be driven against the wire gauze at the side opposite to that whence the current flows, and then the gas will become sufficiently heated to permit the flame to pass through, or to communicate inflammation to the external atmosphere.

38. Those explosive mixtures, the proportions of whose elements assimilate the nearest to two volumes of hydrogen and one volume of oxygen, yield by combustion the greatest quantity of heat from a given volume of the mixture. Hence it is easy to understand that the relative proportions of a third element, as carbon in carburetted hydrogen, and azote in atmospheric air, determine the specific temperature of the mixtures in which they may be present.

39. The security afforded by the use of a cage of wire gauze in an explosive atmosphere is not entirely due to the radiating properties of the metal. The temperature, at any particular part of a large cylindrical film of flame of an explosive mixture, burning tranquilly within a safety lamp, will be very inferior to that arising from the combustion of the same materials under different circumstances. The vaporisation of the oil (35) will engage a portion of the heat given out by the combination of the gases. But there is another condition that demands especial notice. Whilst a current of the explosive mixture is flowing *inwards* through the interstices of the gauze at the base of the cage—which current, from its temperature and direction, cannot possibly communicate inflammation to the external atmosphere—a similar current of non-explosive materials (aqueous vapor, carbonic acid gas, free carbon, and azotic gas,) must be necessarily flowing *outwards* near the top of the lamp.* When these tranquil currents are disturbed by a sudden rush of the explosive atmosphere, or of comparatively fresh air, then it is that explosion ensues.

40. The phenomena that accompany the tranquil combination of explosive mixtures, at a temperature below that which is sufficient to inflame them, are so numerous and so interesting, especially when viewed in connection with Mr. Faraday's late researches into the action of platina upon gaseous bodies, that they will require a separate notice.

41. Having thus enumerated with a minuteness that it is feared will be considered by some as unnecessary, a variety of phenomena connected with flame, it now remains that we should inquire if the facts eliminated support and illustrate the theory of flame, as announced by Sir H. Davy, and the views which are advanced by other writers, some of whom stand deservedly high in the scientific world.

42. It is stated by Davy, in his Treatise on the Safety Lamp, 8vo., London, 1825, p. 46: That "the flame of combustible bodies, in all cases, must be considered as the combustion of an *explosive mixture* of inflammable gas, or vapor and air: for it cannot be regarded as a mere combustion at the surface of contact of the inflammable matter; and the fact is proved by holding a taper or a piece of burning phosphorus within a large flame made by the combustion of alcohol, the flame of the candle, or of the phosphorus, will appear in the centre of the other

flame, proving that there is oxygen even in its interior part."

Dr. Ure, Dict. Chem., 4th edit., London, 1831, has quoted verbatim the above paragraph, Art. Combustion, p. 357, without acknowledgment. He has also enriched his pages by copious extracts from Davy's work throughout the same article.

Dr. Graham, Chem. Catechism, 2d edit., London, 1829, Art. Combustion, p. 589, also quotes without acknowledgment a part of the paragraph. In a note there is the following piece of information: "The form of flame is conical, because the greatest heat is in the centre of the *inflammable mixture*."

Dr. Thompson says, in his admirable Treatise on Heat and Electricity, 8vo., London, 1830, p. 309: "Flame is the rapid combustion of volatilized matter. The tallow or the wax is melted and drawn up to the top of the wick of a candle. Here it is boiled and converted into vapor, which ascends in the form of a column. This vapor is raised to such a temperature that it combines rapidly with the oxygen of the surrounding atmosphere, and the heat evolved is such as to heat the vapor to whiteness. Flame, then, is merely volatile combustible matter heated white hot. The combustion can only take place in that part of the column of hot vapor that is in contact with the atmosphere, namely, the exterior surface. The flame of the candle, then, is merely a thin film of white hot vapor, enclosing within it a quantity of hot vapor, which, for want of oxygen, is incapable of burning."

Dr. Lardner, Cab. Cyc., Treatise on Heat, p. 358, seems to entertain similar views to those expressed by Dr. Thompson. By the frequent interchange of the terms "gas," and "vapor," the passage in the Cab. Cyc. is, however, rendered somewhat obscure.

43. If we observe with attention the flame of a combustible body with whose habits we are familiar, say, for example, a common tallow candle, it will be found to exhibit the following phenomena. The tallow being liquified by the proximity of a burning body, rises, by capillary attraction, between the filaments of the wick. As it approaches the flame it is converted into vapor, from which state it readily passes into that of gas. The flame not being in actual contact with the wick (1), the vaporisation of the tallow goes on simultaneously at every part of the wick surrounded by the flame. The blue portion of the flame, at its base, as well as the fainter film of blue that surrounds its other parts, denote the chemical union of carburetted hydrogen and oxygen gases (19, 30, 31.) As this union is a continuous process, accompanied by the evolution of heat, a temperature is speedily attained of sufficient intensity to decompose a great proportion of the nascent inflammable gas. By this decomposition successive portions of carbon are separated from hydrogen. The hydrogen combines with oxygen, forming water; the carbon at this elevated temperature becomes luminous, and combining also with oxygen, yields carbonic acid gas (22).

44. It will be seen that I do not agree with Dr. Thompson (42), who maintains that the flame of a candle "is merely a thin film of white hot vapor." We are accustomed to say, that the vapor of certain bodies, as of alcohol, or ether, is inflammable, but I consider the inflammability of these vapors is due entirely to the facility with

* Such frequent reference is made to coal gas, because now that gas light is making rapid progress among the provincial towns of this kingdom, there will be greater facilities than formerly for obtaining it in researches of this kind. I object to the employment of the generic term, carburetted hydrogen, in a sense synonymous with coal

* The comparatively low temperature of the flame of explosive mixtures present in coal mines, is doubtless owing, in a great measure, to the vast quantities of azotic gas contained in those mixtures.

which they are convertible into gases under certain specific conditions, and the influence of a certain temperature.*

45. If the view we have taken be correct (43), it seems that the combustion of a tall candle involves a somewhat complicated, yet, if carefully analyzed, an exceedingly beautiful process. It is a conical film of luminous matter (1), changing gradually upwards, from blue to white. It contains, in its interior, nascent inflammable gas; but no oxygen (15, 16.) At the very base of this film of flame, at a temperature which may be termed specifically its own, we may perceive indications that a chemical union is going on between carburetted hydrogen and oxygen gases; aqueous vapor and carbonic acid gas being projected from the flame at this part.† The supply of inflammable gas from within being constant and regular, and an equally uninterrupted supply of oxygen being established by the rarefaction of that portion of air in the immediate vicinity of the flame, the heat given out by the sudden union of one portion of inflammable gas with oxygen is sufficient to decompose a large portion of the same material. To the latter part of the process are we indebted for the illuminating properties of the flame. Hence also those important distinctions perceptible in different parts of the same flame (30).

46. The flame of combustible bodies cannot, therefore, "in all cases be regarded as the combustion of an explosive mixture of inflammable gas, or vapor and air," but as the tranquil and progressive combination of inflammable gas with oxygen. The combustion of explosive mixtures differs from that of a common candle or coal gas, (19, 20, 30, 31, 43, 44, 45,) inasmuch, that in one case there is an immediate combination of all the inflammable gas with oxygen; in the other, a part only so combines, whilst the greater portion undergoes decomposition previous to its ultimate combination (29). The results are the same in both cases; but the conditions that produce them essentially differ.

47. What has been said respecting the flame of a candle may be applied, without difficulty, to the flame of those combustible bodies with which we are familiar in the ordinary affairs of life. The flame of a tall candle, an oil lamp, and a coal fire, present not only similar, but identical phenomena. The flame of coal gas differs from each of the preceding. In the three former there is a vaporisation of the elements of the combustible body,—a spontaneous, or, if I may employ the term, an extemporaneous transition of this vapor to gas; then follows inflammation, decomposition, and re-composition.

* Some have maintained that the bodies we designate gaseous are nothing more than vapors. I here only speak of things as we find them. If gases are vapors, we know them to be more complex and refined, as regards the arrangement of their particles, than vapors, in the popular acceptance of the term. Should it be objected that vapor of certain inflammable bodies detonate, if mixed with oxygen, in the same way as explosive mixtures of gases, I have only to reply that the detonation is the result of the sudden and spontaneous evolution of gas, and its re-union with the oxygen present. These processes may be the work only of 1-100th or 5-100th part of a second.

† To ascertain this fact by experiment, the following simple means may be employed: If a piece of cold glass or polished metal be held near the blue part of the flame, aqueous vapor will be projected upon it. 2. If a drop of a saturated solution of lime (lime-water) be held at the end of a small glass rod or tube near the blue flame, the water will become turbid—carbonic acid gas combining with the lime and separating it from the water. This latter experiment must be the work of a moment, or we may be deceived by simply vaporising the water.

In the latter case, the gas being previously generated, inflammation is the first stage in the process of combustion: the subsequent stages are identical.*

48. That all the vapor arising from a combustible body is not, excepting under particular circumstances, converted into gas, is abundantly evident by the free carbon (smoke) that arises from a candle, a lamp, and a coal fire. Equally evident is it that certain conditions must be observed in effecting the combination of all the elements of a previously prepared gaseous body with oxygen. This we learn by the free carbon (smoke) given off from coal gas, when too much is admitted to the burner.

49. Those bodies which contain a large portion of carbon, as compared with their other elements, require different management from those whose elements of inflammability assimilate in more exact proportions. It will be sufficient to mention, and to place in juxtaposition,

Ether	-	-	Spirit of turpentine.
Sperm oil	-	-	Coal tar.

In ether and in sperm oil, hydrogen and carbon exist in such proportions, that they readily pass through the several stages already described (47), and form with oxygen new compounds.† Spirit of turpentine and coal tar, containing, on the contrary, an excess of carbon, require a different treatment to effect their entire combination with oxygen.

50. It is inexplicable why Davy employed a larger flame of alcohol in his researches in preference to a smaller one, since it is so difficult to conduct with the former a fair and accurate experiment, whilst with the latter the results are uniform and conclusive (8, 12); we have no difficulty in ascertaining that flame is hollow (1, 2, 3, 4, 5, 6, 7;) we have the most conclusive evidence that oxygen exists not in the interior of flame (8, 9, 10, 12, 13, 14, 15, 16, 17); not even in that of explosive mixtures (33). And equally certain is it that the habits of explosive mixtures are very unlike those exhibited by combustible bodies under ordinary circumstances (19, 20, 21, 23, 30, 31.) Further, we may not only satisfy ourselves that the flame of a candle or lamp is conical and hollow, but we may ascertain that it does not consist only of a thin film of luminous matter, and that combustion takes place only at the surface where the inflammable gas comes in contact with oxygen. Thus, the flame from an Argand burner, when air has access to its interior, is not only cylindrical, but hollow, i. e. it consists of two concentric cylinders, or films of luminous matter (3, 4,) whilst the flame from the same burner, when air is excluded from its interior, consists only of one cylinder, or an external film (5). Difficult as it may be to understand how so

* The quality of the light from different bodies will depend—all other circumstances being the same—on the qualities of the combustible body. The most intensely white light evidently contains a greater portion of olefiant gas than a dull yellow light. It is not, however, unworthy of remark, that very much depends on the management of the materials. A tallow candle, with a small compact wick, will yield a more brilliant light—I mean as to its quality—than a similar candle with a large fibrous wick. What is usually termed the perfect combustion of the materials is, in fact, only another term for the perfect combination of all the inflammable elements with oxygen.

† It may not be improper to remark, that when aqueous vapor exists in an inflammable body, as in alcohol and ether, there must of necessity be oxygen present. When, however, the vapor of this body is converted into gas (44), the oxygen does not act the part of a supporter; but by combining with half its volume of oxygen, yields carbonic oxide, which, under favorable circumstances, becomes, by the addition of another half volume of oxygen, carbonic acid.

eminent a philosopher as Davy could have erred in relation to this subject, I think we have no alternative but to reject his theory of flame, since it is wholly unsupported by fact and experiment. This will be done, I have no doubt, by all who, unbiassed by prejudice, and unawed by great names, will take the trouble to investigate the matter for themselves.

J. N. O. RUTTER.
Lymington, Hants, May 14, 1834.

NEW LOCOMOTIVE ENGINE.—[From a correspondent at Liverpool.]—On the 22d June, a new Locomotive Engine, made by Messrs. Forrester & Co. of Vauxhall Foundry, was tried on the Liverpool and Manchester Railway. The experiment was crowned with the most brilliant success; the engine, which is called the Vauxhall, was proved to be the most powerful and rapid engine ever on the line.

At eleven A. M. she left the Liverpool station with an extra train of carriages and luggage, and arrived at Manchester, (32 miles,) in 57 minutes. On her return she brought a very full train of first class carriages, a private carriage mounted on a surry, and a heavy luggage waggon, in 67 minutes.

She mounted the inclined planes in grand style. The distance has been run in less time, but never with any thing approaching the weight this engine drew.

She is intended for the Dublin and Kingstown railway, the Directors of which, attended by C. B. Vignoles, Esq. their Engineer, accompanied the engine to and from Manchester, and were highly pleased with the satisfactory result of the experiment.

To the Editor of the Railroad Journal.

SIR,—I have observed in several late papers an account of an invention by which accidents, like those that have lately occurred upon the inclined planes of the Columbia and Philadelphia and the Alleghany Portage Railroads, may be prevented. In my humble opinion the inventor has gone to a great deal of useless trouble and expense in making rack-work, cog-wheels, and what not. The same end may be obtained by a very simple contrivance, that has long been in use upon the planes of the Baltimore and Ohio Railroad. It is simply a piece of timber, say 2½ inches square, by 5 feet long, shod with iron at one end, trailing behind the car, on a pivot or hinge, so that the instant the rope gives way, the iron point digs into the ground and arrests the descent of the car. The danger with regard to ascending trains is thus very easily guarded against. It is otherwise with descending ones, as it is obvious that any sudden check applied to a car going with any rapidity would either destroy the car, or shoot forward the load from the car. In descending trains, therefore, the conductors should be ever on the alert, and the moment they perceive any thing give way apply the ordinary brake, which, if properly constructed, will gradually moderate the velocity until it is safe to use the more effective check before described.

SAFETY VALVE.

Mr. Burden's Boat.—We are sorry to learn, says the Albany Evening Journal, that the injury to Mr. Burden's steamboat is more serious than we supposed yesterday. Both cylinders are entirely destroyed. The loss, we understand, will not fall below \$25,000. Nor did the accident occur, as we first heard. The channel was obstructed by vessels, between one of which and the dam the boat had to pass. Finding the passage too narrow, the pilot first rang his bell to "stop her," and then to "go back." This last bell the Engineer mistook for one to "go ahead," which brought her up on the dam.

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 405.)

The valves have no power of accelerating the motion of the blood; they only prevent its retrograde motion, and cause the whole power of the heart to be employed in directing the blood forwards in the course of the circulation. But when they are ruptured, when the valve first described is rent, or the cordæ tendinæ are broken, then the membrane, which we have said is like a sail, is carried back from the second into the first cavity. It is like the sail torn from the sheets and flying out before the wind: the effect is terrible: the pulse of the heart, the whole force of which should be given to carry the blood forwards in the arteries, has half its force directed backwards upon the veins.

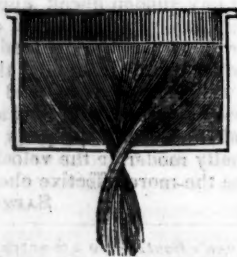
In the same manner the semi-lunar valves in the root of the aorta may have their margins torn. We have described the margin of these valves to be strengthened by a tendon or cord run along their edge, like the rope which is sewed to the edge of a sail. There is an obvious intention in strengthening the valve here, but when textures of this kind become impaired in the human frame, this may give way and be torn, and then the re-action of the artery, when the heart has given its stroke, is lost; for, instead of impelling the blood forwards, the blood runs backwards into the heart. The effect of these accidents is extreme debility of circulation, with symptoms varied according as the defect falls on the circulation through the lungs, or through the body—that is, whether on the right or the left heart of man. But such accidents are rare, and never take place until disease has impaired the strength of what we may call the tackle of the valve.

The next remark is founded more directly on the hydraulic principle.

This ring and these valves, at the beginning of the great artery, imply a certain constriction or diminution of the tube at this part, and we have now to show that such a contraction of the tube at this precise part does not diminish the diameter of the column of blood. This appears an inconsistency; but if a stream of water flow from a cistern, through a hole in that cistern, the column of water will be diminished at a certain point of its exit.

The water flowing through the bottom of the cistern may be represented by converg-

Fig. 9.

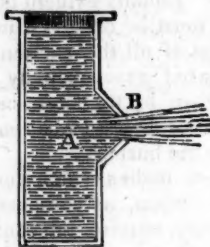


ing lines; and their united forces impelling the stream forward, contract it just beyond the exit—the *Vena Contracta*. Nature, taking advantage of this law, has constructed the narrow ring which we have shown is necessary to the accurate adjustment of the

valve, at the precise part where the blood, issuing from the cavity of the ventricle, is necessarily contracted to the smallest space. The column of blood would be contracted at this point, even if there were no coats of the artery to confine it there.

We had thought of this as a thing indicated by reasoning, but we find that an appropriate experiment has been made which proves it.

Fig. 10.



A being the side of a reservoir, and B a short tube giving issue to the water, it will deliver as much water by this conical constructed mouth as if the tube were of equal diameter with the hole in the reservoir. The reader will perceive how satisfactorily this indicates what is designed by the difference in the size of the mouth of the ventricle which gives entrance, and that which gives issue to the blood.

With a view to explain the motion of fluids in tubes, and finally the motion of the blood in the blood-vessels, let us consider what takes place in the motion of the column of water which is not contained in a tube.

When water is poured out, and descends in an uninterrupted stream, the column contracts as it descends, until it has acquired such a velocity that the atmosphere opposes it and scatters it; we do not mean the contraction illustrated by fig. 9, but that gradual diminution of the diameter of the stream, owing to the height from which it falls. We apprehend that this is on the principle that falling bodies are accelerated as the square root of the height from which they fall. The stream being more rapid at its lower part, is necessarily smaller in diameter, until having acquired considerable velocity the resistance of the atmosphere separates its filaments, and it becomes broader again.

A very different appearance is presented in a jet d'eau; here the ascending stream

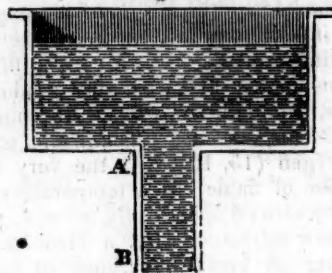
Fig. 11.



widens as it ascends. The explanation of this we conceive to be, that the fluid is re-

tarded as it mounts, and that the stream propelled from below is forced between the filaments* of the column above, and disperses them, so as to give the column a conical form.

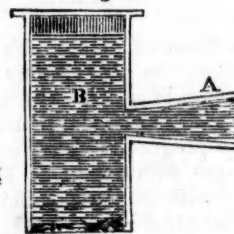
Fig. 12.



This reservoir will be emptied more rapidly, if, instead of a hole in the bottom at A, the water be discharged by a tube, A B, of the diameter of the hole. Here the column of water being perpendicular, it will be accelerated at its lower part; but instead of diminishing its diameter, as it would do if not confined by a tube, it will draw an additional volume of water down, and accelerate the discharge.

It will be very different if the force be altogether from behind, as when water is propelled into a horizontal tube.

Fig. 13.



The tube A being conical, will discharge more fluid from the reservoir B than if it had been of equal length, and its diameter throughout the same as at its commencement. Because, as it appears to us, the weight of the descending column being the force, and this operating as a *vis a tergo*, it is like the water propelled from the jet d'eau, and the gradual expansion of the tube permits the steam from behind to force itself between the filaments, and disperses them, without producing that pressure on the sides of the tube which must take place where it is of uniform calibre. These principles will give great interest to the following fact.

The celebrated John Hunter took great pains to prove that the artery had its diameter enlarged as it proceeded from the heart, and that the areas of the branches of an artery were greater than the diameter of the parent trunk.

That is to say, the section of the trunk, at A, was not so great as the two sections, at B, taken together; that the two sections at B taken together were not so great as the four sections at C; that the conjoined diameters, therefore, of the branches of an artery were greater than the diameters of the artery itself. This fact has been sometimes expressed by saying that the artery was a cone with its apex in the heart.

When we stand by a rapid river, we can perceive that the surface of it is not level.

* Those who treat of hydraulics divide a column of water into ideal lesser columns, which they call filaments, with a very different meaning from the fibres of the anatomists.

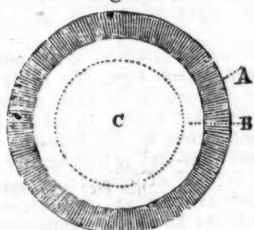
Fig. 14.



The stream is rapid in the middle, and there the water is highest. The friction of the water against the bottom and the sides retards the stream, whilst the greater velocity of the current in the centre draws the water to it, which is the reason of its elevation there.

For the same reason, if an engineer estimate the quantity of fluid to be delivered through a tube without estimating the friction of the sides, he will be disappointed in the result of his calculation; for as the water of the river is delayed by the bottom and sides, so is the fluid in the tube retarded by the attraction or friction between the water and the tube. And if we can imagine a section representing the tube and the flowing

Fig. 15.



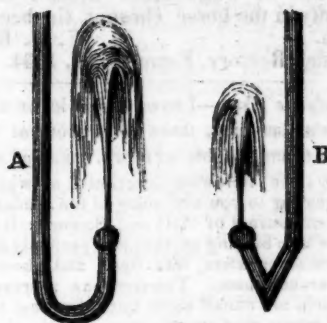
water, A will be the solid tube, B the water retarded or arrested by the friction against the tube, and the space C, within the inner circle, would represent that part of the stream which is in uninterrupted flow. The engineer will, therefore, lay a tube larger than would be necessary, were there neither attraction nor friction between the solid and fluid. It must further appear that the smaller the calibre of the tube, the surface of attraction or friction will be proportionally greater. Does not this explain the anatomical fact which we have been contemplating, that the area of the smaller branches is comparatively larger than the trunk from which they are derived?

Two beneficial effects result from this: for we must observe that the blood-vessels of the body are reservoirs as well as conduit pipes. A man of middling stature has 33 lbs. of blood in his circulating vessels; if the vessels did not enlarge as they receded from the heart, there would be no place for the deposit of this great quantity of blood. The advantages, then, of this particular form, are, *first*, that a quantity of blood necessary to the economy is contained within the vessels; and, *secondly*, that the blood is more easily urged forwards by the action of the heart. The reader will not now be surprised in learning, that a pipe of a conical form, that is, enlarging as it proceeds, gives the least

interruption to the flow of water from a reservoir.

Water flowing in a tube will be retarded by any sudden angle in the tube. If the ad-

Fig. 16.



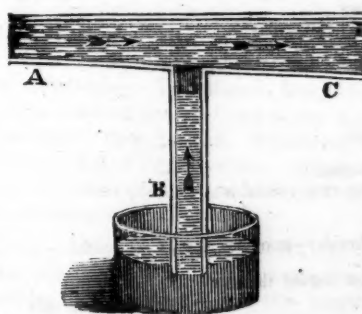
jutage of a jet d'eau have not a gentle and uniform sweep where it is turned, the jet of water will not reach the height which it ought to do by calculation of the height of the reservoir of water from which it descends: it will go higher from the tube A than from B. This circumstance explains the uniform and parabolic curve which the great artery of the body takes in first ascending from the heart. It explains also why the branches of the great artery go off at different angles, according to their distance from the heart, or, in other words, why they pass off at smaller angles with the stream the farther the artery recedes from the heart.

In the distribution of water pipes, it is very necessary to attend to the angle at which the small pipe is attached to the greater one, not only because a pipe being bent abruptly causes loss of motion from the impulse of the fluid against the side, but also from another well known law of hydraulics.

a pipe be fixed into another so as to join it at an angle contrary to the direction of the stream, the discharge into that lateral branch from the larger tube will not only be much smaller than we might estimate by the diameters of the tubes, but, in certain circumstances, it will discharge nothing at all; nay, on the contrary, the water would be drawn from the lesser tube into the greater, until the lesser tube be emptied, and air be sucked in.

Bernoulli found that when a small tube, B, was inserted into the side of a horizontal

Fig. 17.



conical pipe, A, in which the water was flowing towards the wider end, C, not only none of the water escaped through the small tube, but the water from a vessel placed at a considerable distance below was drawn up through the tube B into the pipe A.

The Duke of Sutherland was unanimously elected President of the British Institution, at a recent meeting of the Directors and Governors of the Institution.

AGRICULTURE, &c.

Remarks on the Leafing of Oak Trees, and the Tints of the early Foliage. By the Rev. W. T. BREE, A. M. [From Loudon's Gardener's Magazine.]

[The following article is deserving the attention of all those who study landscape gardening. It exhibits the accurate observations and taste of this writer.—Ed.]

The most inattentive observer can hardly fail to have remarked that there is a very considerable difference, (a difference, perhaps, of not less than a month or six weeks,) in the period at which different individuals of the same species of oak, (*Quercus Robur*.) expand and shed their leaves; those, of course, which assume their foliage earliest in the spring, losing it earliest in the autumn; and *vice versa*. Accordingly it is very common to see one oak tree in full verdure, while its next neighbor, only a few yards distant in the same wood or hedgerow, is perfectly bare, or, at most, with its buds only bursting. It is an equally obvious remark, that these trees vary no less in the tints which they exhibit on first coming into leaf; and, again, nearly as much so when they are preparing to lay aside their honors in the autumn. "The budding oak," says Gilpin, "displays great variety." Of the vernal tints, which, if not so rich and luxuriant in the eye of the painter, are yet exceedingly tender and beautiful, some are of a delicate green, others rich brown, yellow, bright sulphur-colored, red almost approaching to scarlet, with innumerable intermediate gradations of color. It strikes me that these obvious facts might be turned to good account by the planter, whether his chief object in planting be profit or ornament. If there be any truth in the received opinion, that, "of trees of the same species, those which expand their leaves last in the spring, and shed them last in the autumn, afford the best timber," it would surely be worth any one's while, who plants for profit, to select his oaks accordingly. Again, in mere ornamental planting, much advantage might result from paying attention to the different tints exhibited by the foliage, respectively, both in spring and autumn. It is easy to conceive the happy effect which might be produced by either harmoniously grouping together individuals of the same hues in their early foliage, or by judiciously contrasting those of different ones. A whole grove or avenue might be formed, which, at that most interesting season of the year, when the leaves are yet tender, should display, throughout its entire extent, a regular series of graduated tints, or any other combination of color, according to the taste or fancy of the planter; and a corresponding effect would, if I mistake not, be visible also in the autumn. In one part of the park or pleasure-ground it may be desirable that a particular spot should be occupied by oaks which come into leaf the earliest of their kind; while, in another, it may be no less an object to introduce such as retain their leaves to the latest period in the autumn. Even in the case of single trees, it may, according to circumstances, be of some importance to the landscape, whether the one selected for a particular situation be early or late in its period of leafing, of one color or another. Innumerable, in short, are the arrangements, the agreeable contrasts and combinations, which might be formed by paying attention to the above circumstances. I do not pretend to lay down precise rules for the guidance of the planter; I merely throw out a few hints in the hope of drawing attention to an interesting subject, which appears to me to have been more neglected than it deserves.* With most planters, and, I believe I may say, with all nurserymen, oaks are oaks, and that is all: no regard whatever is had to the individual varieties of our native oak, unless, indeed, these be of a very marked and unusual character. Now, if there were a call, on the part of purchasers, for the

early or the late leafing varieties, or for those of this or that particular tint or form of foliage, nurserymen would soon learn to sort their oaks accordingly, in order to meet the demand of their customers, or planters, by sowing the acorns and raising their own oaks, might adopt the same method themselves. Nothing could be easier than to do this; for the oak is a tree which develops the peculiar characters which I have above alluded to, at a very early stage of its existence; even the very first season it springs from the acorn, as will be obvious to any one who will but examine a seed-bed when the young trees are first coming up in the spring. There he will see some in broad foliage, while others are only just emerging above the ground. Every variation of color, also, will be perceptible, as much as in trees of mature age; and these peculiarities, it is to be observed, are constant in the individuals, and are retained throughout life: as is the infant seedling, in regard to its period of leafing, and the tints of its foliage, so is the full-grown oak. Even extreme old age is not found to retard the expanding of the leaves, or to affect their color. I consider a bed of seedling oaks, exhibiting, as it does, such diversity of color and of form in the foliage, a most interesting object for contemplation; and I have sometimes fancied that even more of the future characters of the mature tree, such as its propensity to run tall or short in the stem, spreading in the

limbs, and the general style and figure of the head and branches, might almost be predicted at this early period: but this, perhaps, is mere idle speculation.

I may add, that the same discrepancy in the period of assuming and shedding the leaf is observable in other trees besides the oak, especially in the horse chestnut, the beech, and the ash.

W. T. BREE.

Allesley Rectory, February 21, 1834.

A Parasite Tree.—I have recently, on a visit to Mr. Gee's plantation, three miles south of Quincy, Gadsden county, in this territory, observed a natural curiosity; the following description of which may be interesting to you and many of the readers of the American Journal of Arts and Science: It is a yellow pine tree bearing another in a perfectly healthful and flourishing state, like itself and those in the woods around them. The trees, as represented in this sketch, are united about thirty-five feet from the ground, where they entwine around each other. The one that is borne (marked A) extends down to within about two feet of the ground, and is alive and healthful to its lowest extremity. These trees have been in the condition in which they now are for a period longer back than the first settlement of the country by the present population. They were pointed out by the Indians as a curiosity to the first Americans who came to Florida. The stump of the tree which is borne has long since disappeared, and the place which it occupied is now grown up in small bushes of grass.—[Letter in Silliman's Journal.]

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the months of May and June, 1834.—(Lat. 31.10 N., Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
	Morn'g.	Noon.	Night.		
1834.					
May 1	72	81	80	s	clear—thunder and rain, evening—Red River rising
" 2	70	79	68	..	.. —cloudy morning—Red River at a stand
" 3	69	76	74	..	cloudy—hail and rain and thunder at night
" 4	74	84	76	..	clear all day—Red River falling
" 5	62	76	74	w	..
" 6	67	75	72	nw	..
" 7	52	68	62	w	.. —at 1 p. m. thunder showers, rain and hail
" 8	50	62	72	high	..
" 9	58	81	68	..	..
" 10	64	85	78	..	..
" 11	62	78	76	calm	..
" 12	64	82	76	..	cloudy
" 13	66	82	70	..	.. —rain in the evening
" 14	60	62	62	NE	.. —rain all day and night
" 15	60	64	62	..	..
" 16	62	72	72	calm	clear all day
" 17	60	78	75	..	.. —cloudy at noon—wind, NE
" 18	64	78	72	SE—high	cloudy all day
" 19	67	72	70	calm	.. —rain
" 20	68	76	71	SE	..
" 21	66	78	79	..	..
" 22	68	82	77	calm	clear
" 23	68	83	78	..	..
" 24	66	84	78	N—light	..
" 25	67	84	79	calm	..
" 26	69	85	82	..	..
" 27	70	86	82	..	..
" 28	72	88	84	..	..
" 29	70	78	68	..	cloudy—heavy rain in evening and night
" 30	66	76	76	..	clear all day
" 31	68	78	88	..	.. —Red River fell this month 4 ft. 8 in.—below high water mark, (8 ft. 7 in.)
June 1	74	86	82	..	cloudy—Red River falling
" 2	74	86	84	..	clear—sowed first crop red clover hay
" 3	74	88	84	..	..
" 4	76	86	84	s—light	cloudy morning—clear day—digging Irish potatoes
" 5	77	88	84	..	clear
" 6	73	90	83	..	.. all day
" 7	72	89	84	calm	..
" 8	73	87	92	..	.. —cutting oats
" 9	72	86	82	..	..
" 10	72	90	83	s	..
" 11	74	82	82	sw	.. —evening calm and cloudy
" 12	68	86	80	w—light	cloudy morning—evening clear—wind N
" 13	70	90	84	calm	clear all day
" 14	71	90	82	sw—light	.. —flying clouds
" 15	70	88	82	..	.. —evening, distant thunder—tomatoes ripe
" 16	73	83	76	s	..
" 17	73	82	74	..	.. —evening, cloudy and distant thunder
" 18	74	84	78	calm	cloudy— .. —finished cutting oats
" 19	70	89	82	..	clear— ..
" 20	72	88	80	N—light	.. —ochre for use
" 21	70	80	69	calm	.. —foggy morning—evening, a light shower
" 22	70	88	80	NE—high	.. —clear evening—at 1 p. m. to 7 p. m. a severe gale & heavy rain—corn (blown down)
" 23	76	88	82	..	..
" 24	74	81	76	s—light	cloudy—light shower
" 25	74	86	74	..	..
" 26	72	89	84	..	.. —evening—heavy thunder shower
" 27	74	89	84	s—light	clear— ..
" 28	74	88	82	..	..
" 29	72	88	82	..	..
" 30	75	90	..	..	.. —evening rain—Red River fell this month, 8 ft. 6 in.—now below high (water mark, 17 ft. 1 in.)

P. S.—The storm on the 21st of June injured our crops of corn very much.

NEW-YORK AMERICAN.

AUGUST 2-8, 1834.

LITERARY NOTICES.

THE PRINCIPLES OF PHYSIOLOGY APPLIED TO THE PRESERVATION OF HEALTH, AND TO THE IMPROVEMENT OF PHYSICAL AND MENTAL EDUCATION; 1 vol.; by Andrew Combe, M.D., Fellow of the Royal College of Physicians of Edinburgh. New York: Harper & Brothers.

It is long since we met with a work of the same size which contained such a mass of useful knowledge as does the little 18mo before us. It is an elementary book on physical education, where in every principle laid down is illustrated by some fact that instantly impresses its truth upon the mind.

The work is already so generally spoken of, and approved, that it is not necessary to go into a minute examination of its contents; but we have marked a number of passages for quotation, which will give some idea of the philosophic thought and study, which Mr. Combe has brought to the most familiar subjects, and the enlightened application he has made of ordinary facts, to elucidate his principles.

Happy would it often be for suffering man could he see beforehand the modicum of punishment which his multiplied aberrations from the laws of physiology are sure to bring upon him. But, as in the great majority of instances, the breach of the law is limited in extent, and becomes serious by the frequency of its repetition rather than by a single act; so is the punishment gradual in its infliction, and slow in manifesting its accumulated effect; and this very gradation, and the distance of time at which the full effect is produced, are the reasons why man, in his ignorance, so often fails to trace the connexion between his conduct in life and his broken health. But the connexion subsists, although he does not regard it, and the accumulated consequences come upon him when he least expects them.

Thus, pure air is essential to the full enjoyment of health; and reason says, that every degree of vitiation must necessarily be proportionally hurtful, till we arrive at that degree at which, from its excess, the continuance of life becomes impossible. When we state this fact to a delicately constituted female, who is fond of frequenting heated rooms, or crowded parties, theatres, or churches, and call her attention to the hurtful consequences which she must inflict on herself by inhaling the vitiated air of such assemblies, her answer invariably is, that the closeness and heat are very disagreeable, but that they rarely injure her: by which she can only mean, that a single exposure to them does not always cause an illness serious enough to send her to bed, or excite acute pain; although both results are admitted sometimes to have followed. An intelligent observer, however, has no difficulty in perceiving that they do hurt her, and that although the effect of each exposure to their influence is so gradual as not to arrest attention, it is not the less progressive and influential in producing and maintaining that general delicacy of health by which she is characterized, and from which no medical treatment can relieve her, so long as its active causes are left in operation.

The debility so generally complained of in spring by invalids and persons of a delicate constitution, and which renders that season of the year so formidable in prospect, and in reality so fatal, seems to result more from the accumulated effects of the preceding winter months than from any thing directly inherent in the season itself. At the commencement of winter, such persons feel comparatively strong from the beneficial influence of exposure to the open air, light, and exercise, during the preceding months of summer and autumn. But in proportion as they are deprived of these advantages by the advance of winter, and are subjected to the evil influence of confinement to close rooms, deficient exercise, cold damp air, and deprivation of the stimulus of light, the stamina of the constitution become impaired, and debility and relaxation begin to be felt, and make progress from day to day, till on the arrival of spring they have reached their maximum, and either give rise to positive disease, or gradually disappear at the return of the invigorating influence of longer and warmer days. * *

It is believed by many, that marsh miasmata and other poisons are absorbed by the skin, and Bichat considered the fact as established in regard to the effluvia of dissecting-rooms. There are many reasons for concurring in this belief. The plague, for instance, is known to be much more readily communicated by contact than by any other means, and this can happen only through the medium of absorption. Again, it is certain that flannel and warm clothing are extremely useful in preserving those who are unavoidably exposed to the action of malaria and of epidemic influences; and these manifestly act chiefly by protecting the skin. A late writer on the Malaria of Rome strongly advocates this opinion, and expresses his conviction that the ancient Romans suffered less from it, chiefly because they were always enveloped in warm woollen dresses. This opinion, he says, is justified by the observation, that since the period at which the use of woollen clothing came again into vogue, intermittent fevers have very sensibly diminished in Rome. Even in the warmest weather the shepherds are now clothed in sheep skins. Brocchi, who experimented extensively on the subject, obtained a notable quantity of putrid matter from the unwholesome air, and came to the conclusion, that it penetrated by the pores of the skin rather than by the lungs. Brocchi ascribes the immunity of the sheep and cattle, which pasture night and day in the Campagna, to the protection afforded them by their wool. These remarks deserve the serious attention of observers,—particularly as, according to Patisier, similar means have been found effectual in preserving the health of labourers digging and excavating drains and canals in marshy grounds, where, previous to the employment of these precautions, the mortality from fever was very considerable.

It is a general law, that every organ acts with increased energy when excited by its own stimulus; and the application of this law to the different functions of the skin may help to remove some of our difficulties. The skin exhales most in a warm dry atmosphere, because the latter dissolves and carries off the secretion as fast as it is produced; and the same condition is unfavorable to absorption, because nothing is present upon which the absorbents of the skin can act. In a moist atmosphere, on the other hand, the absorbents meet with their appropriate stimulus, and act powerfully; while exhalation is greatly diminished, because the air can no longer carry off the perspiration so freely. Apparently from this extensive absorption, we find the inhabitants of marshy and humid districts remarkable for the predominance of the lymphatic system, as has long been remarked of the Dutch; and as malaria prevails chiefly in situations and seasons in which the air is loaded with moisture, and is most energetic at periods when absorption is most active and moisture is at its maximum, the probability of its being received into the system chiefly by cutaneous absorption is greatly increased, and the propriety of endeavoring to protect ourselves from its influence by warm woollen clothing becomes more striking. In the army and navy, accordingly, where practical experience is most followed, the utmost attention is now paid to enforcing the use of flannel and sufficient clothing, as a protection against fever, dysentery, and other diseases, particularly in unhealthy climates. In the prevention of cholera, flannel was decidedly useful.

The advantages of flannel as a preservative from disease in warm as well as in cold climates are now so well understood, that in the army and navy its use is cogently, and with great propriety, insisted on. Captain Murray, late of H. M. S. Valorous, told me that he was so strongly impressed from former experience with a sense of the efficacy of the protection afforded by the constant use of flannel next the skin, that when, on his arrival in England in December, 1833, after two years' service amid the icebergs on the coast of Labrador, the ship was ordered to sail immediately for the West Indies, he ordered the purser to draw two extra flannel shirts and pairs of drawers for each man, and instituted a regular daily inspection to see that they were worn. These precautions were followed by the happiest results. He proceeded to this situation with a crew of 150 men; visited almost every island in the West Indies, and many of the ports in the Gulf of Mexico; and, notwithstanding the sudden transition from extreme climates, returned to England without the loss of a single man, or having any sick on board on his arrival. In the letter in which Captain Murray communicates these facts, he adds, that every precaution was used, by lighting stoves between decks, and scrubbing with hot sand, to ensure the most thorough dryness, and

every means put in practice to promote cheerfulness among the men. When in command of the Recruit gun-brig, which lay about nine weeks at Vera Cruz, the same means preserved the health of his crew, when the other ships of war anchored around him lost from twenty to fifty men each.

That the superior health enjoyed by the crew of the Valorous was attributable chiefly to the means employed by their humane and intelligent commander is shown by the analogy of the Recruit; for although constant communication was kept up between the latter and the other ships in which the sickness prevailed, and all were exposed to the same external causes of disease, yet no case of sickness occurred on board the Recruit. Facts like these are truly instructive, by proving how far man possesses the power of protecting himself from injury, when he has received necessary instruction, and chooses to adapt his conduct to his situation.

For those who are not robust, daily sponging of the body with cold water and vinegar, or salt water, is the best substitute for the cold bath, and may be resorted to with safety and advantage in most states of the system; especially when care is taken to excite on the surface, by the subsequent friction with the flesh-brush or hair-glove, the healthy glow of reaction. It then becomes an excellent preservative from the effects of changeable weather. When, however, a continued sensation of coldness or chill is perceptible over the body, sponging ought not to be persisted in: dry friction, aided by the tepid bath, is then greatly preferable, and often proves highly serviceable in keeping up the due action of the skin.

HISTORICAL AND DESCRIPTIVE ACCOUNT OF PERSIA, from the earliest ages to the present time. By *Jas. B. Fraser, Esq.* 1 vol. Harper's Family Library.—Any one who has been hurried through the vivid and deeply interesting pages of "*The Kuzzilbash*," by the varied scenes of peril, and stirring pictures of oriental life, detailed by the bold adventurer, will allow that the task of compiling the present work could hardly have fallen into better hands than those of Mr. Fraser. Sir John Malcolm's book, indeed, must ever remain a standard work upon this interesting country, and Porter and Morier (the author of the new novel, *Ayesha*) will always be read by those who wish to obtain a minute account of the antiquities of Persia, but none of them, we venture to say, have brought together such a variety of information in relation to the resources of Government, Natural History, and character of the inhabitants, as is here detailed by Mr. Fraser.—The reason—a very simple one—it is due to these eminent writers should be stated. Mr. F. has boldly and liberally availed himself of their labors; and we may add, of those of almost every other author that has written upon Persia. A personal acquaintance with many parts of the country, and a residence there, we believe of some years duration, has made him so master of his subject, that he is enabled to collect the various and sometimes contradictory matter from these various sources, and, passing it through the crucible of his own mind, produce a result at once clear and satisfactory. The Messrs. Harper have certainly been very fortunate of late in the works selected for their Family Library. Two books like those of Combe and of Fraser, within a few weeks, make no mean contribution to one's sources of instruction and amusement.

THE NORTH AMERICAN REVIEW, No. LXXXIV.—July.—It is with equal pride and pleasure that on each returning quarter we still find this excellent publication stoutly holding its way, and maintaining, amidst the existing degeneracy of criticism, a vigor of style, and independence of tone, that reminds one of the palmy days of the old Edinburgh. The present No. contains, we think, more than the usual variety of articles, and there are one or two—particularly that on "the Free Cities of Flanders"—to which it may be advantageous to return, and make the subject of future comment.

In the meantime, we will confine ourselves to one, the subject matter of which is somewhat lighter,

though we apprehend hardly more familiar to many of our readers. We find some very clever observations on "the Life and Writings of Crabbe," which do not read the less agreeably, that we have not forgotten the exquisite criticisms of Jeffrey, made at the time the different works of this highly original author appeared. The poetry of Crabbe, we are inclined to believe, will never become popular in this country. Our idea may be fanciful—but we believe it too practical for our people—too much of every-day life, for an every-day-life people—who, when they do take an excursion into the realms of fancy, delight just as much in the gay flutter, the dance of scarfs and pennons, the gleaming of lances, and the clang of the herald's trumpet in one of Scott's or James's tournaments—or, changing the scene for one still more sumptuous, the citron groves and roseate bowers that Moore's voluptuous fancy loves to revel in—delight in these, we say, full as much as the rich and luxurious noble, who dwells so earnestly upon Crabbe's pages, because they paint life wholly different from what he sees it around him. The writings of Crabbe we hold to be a perfect tonic for an indolent, luxurious-minded man—agreeable, from their stimulating properties, and wholesome in their effect. But, he who has to toil and wriggle through this phoezy world, with hundreds among the panting and sweating creatures around him, to prevent his forgetting the coarser traits of humanity, requires no such vigorous mental applications as Crabbe's forbidding pictures of life, to make him remember his share in its concerns—and when he flings off the trammels of business to amuse himself for an hour, if Poets are his companions, he selects those that will bring other muscles of his mind into play than those which have just been over-exercised. He delights in abstract delineations of the play of human feelings on Byron's wandering page. He gives a gloveless hand to the hearty gallants, half knight and half freebooter, in Scott's stirring lay. He flirts in a Paphian bower with Moore's meretricious muse, or he watches the woodland shadows move, and hears the leaves whisper in one of Bryant's delicious groves. And yet we like Crabbe: he is the great utilitarian poet of the age,—the first that ever stripped from the real ills of humble life the absurd and injurious veil that the pastoral poets had thrown around them. Absurd, because characters and situations like those in Pope's pastorals, for instance, are as true to the laws of mental, as is the conformation of a mermaid to those of corporeal physiology. Injurious, because by softening the asperity of the ills endured by the humble poor, in the eyes of those more happily situated—their charities would be blunted, and their thankfulness to heaven for their own enviable lot abated. We do not doubt that many a reflecting Englishman has gone, from the perusal of Crabbe's Tales, into an immediate examination of the Poor Laws of his country.

LITTELL'S MUSEUM OF FOREIGN LITERATURE AND SCIENCE AND ART—for July. Carvills.—A bold and characteristic sketch of O'Connell and Shiel, form the frontispiece to this number, which contains a very good selection of articles. One of these from the Foreign Quarterly tries to be quite sharp upon our countryman, Dr. Dekay, because, in speaking of the English, he adopts the vein of Muskau and Haussez, rather than the self-adulatory tone of one of the modest Islanders themselves. Another paper from the same publication (we wish it was more known among us) contains a most interesting view of Swedish periodical literature, from which we make an extract, that would do well in an appendix to Knickerbocker's History of New York.

We feel hugely tempted to leave these simple, but curious, and to our mind, interesting annals of Scandinavian discovery to the reader's consideration,

even as he now has them, neither troubling him with any of the multifarious disquisitions they have produced amongst the learned of Sweden and Denmark as to the precise points of the North American coast to which they refer, nor balancing the rival pretensions of Newfoundland, Baffin's Bay, and Labrador, of Virginia, and of every State lying between the mouth of the Potomac and the St. Lawrence. As the Norwegians have not as yet advanced any claim of proprietorship, founded upon prior discovery or occupancy, no question of political importance is involved in that of disputed locality; and old Sturleson's account is too plain and straightforward, we think, to admit any doubt of his voyages, at least those of the Erikson race having reached a southern latitude without fixing the precise degree. The only part of his narrative that appears to us at all perplexing, is his describing the natives of his Vinland as Esquimaux. This difficulty Schroder solves by the supposition, that the Esquimaux may formerly have possessed a larger portion of the continent, and been subsequently driven northwards from the more genial regions by the Red Men; and assuredly we know nothing of the early history of the New World that should justify our rejection of the hypothesis as impossible. But it is to be observed, that such indications of a different race of inhabitants from the present Indians, as have yet been found in North America, lead to the conjecture, that the predecessors of the Red Men were more civilized, not more barbarous, than themselves. We must refer this question to Transatlantic antiquaries, offering, however, to the general reader this one additional suggestion, that to the fair, stately, and arrogant Northmen, all savages might seem sufficiently alike, to make the description of those they knew best answer for the better looking strangers. And now, after expressing our wonder that the whole Greenland colony did not transplant itself bodily to the fair and fruitful Vinland, where, as their numbers would assuredly have enabled them to resist the *Skrælinger*, they might have lived in comfort, we proceed to the later connexion of Scandinavia with the New World.

About the year 1625 one Wilhelm Usseling, or Willam Ussling, (for his name is written both ways) an Antwerpian, said to have been in some way connected with the Dutch West India Company, proposed to Gustavus Adolphus of Sweden to establish a Swedish commercial company, upon similar principles with the Dutch, for the creation of a trade with America, and the advancement of the general commercial prosperity of Sweden. The ardent and patriotic monarch was pleased with the suggestion, and granted a privilege or charter for the incorporation of such a company, under the title of General or Southern Company, which is dated the 15th of June, 1646. In this company his Majesty's own royal self became a partner, the queen-mother, together with the chief of the nobles and bishops, to say nothing of official personages, municipal dignitaries, and the inferior clergy, following his example. In his more properly capacity, Gustavus Adolphus was to receive both a duty of 4 per cent. and a fifth of all minerals, with the tenth of all other colonial produce, while Usseling's services were to be rewarded with one-tenth per cent. upon all purchases and sales. The following year this charter was sanctioned by the national diet; but the foreign politics of Sweden, especially the share taken in the Thirty Years' War by Gustavus Adolphus, and afterwards that great king's untimely death, had nearly strangled the scheme in its birth. Subsequently, however, at the instigation of one Peter Mennewe or Mennet, a Dutchman, and a discarded servant of the Dutch West India Company, Axel Oxenstierna, the great Swedish chancellor and statesman, revived the project, and declared himself president of the company, and obtained from Charles First of England, a cession of all British claims to the land upon the banks of the Delaware.

"Well supplied with colonists, provision, ammunition, and merchandize adapted for barter with, or presents to the Indians, Mennet was despatched from Gotheborg (Göteborg) with two vessels; in the spring of 1638 he reached the mouth of the Delaware, and landed in what is now the State of that name, near Cape Henlopen, which he called Paradise Point, and the site of the present Lewis Town, Paradise. A district of country extending from that point up the Delaware to Santickan Fall, (now Trenton in New Jersey,) and thence as far inland as was desired, was purchased of the Indians as the perpetual property of the crown of Sweden. The treaty was drawn up in Dutch, and the Indians set their hands

and marks thereto. Payment was made in awls, needles, scissors, knives, hatchets, guns, powder and ball, (the Swedes were less cautious than the Norwegians,) blankets and coarse cloths. Land-surveyer Kling, who had accompanied the colony, measured and mapped the country. It was named *Nya Sverige*, (New Sweden,) and its boundaries were marked by posts set in the ground. In length it was something better than twenty Swedish miles, and in breadth unlimited, or, extended as far as the purchasers chose. Upon the hill beside the present Wilmington in Delaware, Mennet founded a fortress, named after the then reigning Queen of Sweden, *Christina Skans* (Christina's Castle.) The Hollanders, who were settled upon the River Hudson, had once had some forts even upon the Delaware, whence they had been driven by the Indians, who had utterly destroyed their buildings. These Dutchmen kept some of their number nevertheless constantly resident upon the eastern bank of the Delaware, to watch the movements of whoever should visit those parts. Their purpose was to secure at least the peninsula (now New Jersey) between that river and Nieuw Amsterdam (now New York.) As soon as it was observed that Mennet was laying the foundation of a castle, the Director-General of the New Netherlands protested against the act in the name of the Dutch Company, upon the ground that the river belonged to them. But these remonstrances produced no effect upon Mennet, and on the Dutchmen's side the matter did not for some time proceed beyond words."

The Swedish colony was henceforward managed much like the colonies of other nations. An attempt was made to transport convicts thither, but we are told that "the neighboring nations and the Indians" so much disliked the measure, that the first jail cargo was returned upon the hands of its shippers, and the idea was given up. Speculations in silk, wine, and salt were set on foot, and the company were endowed, after many changes of plan, with a monopoly for supplying the mother country with tobacco. Meanwhile New-Swedish towns were building, not only in the present New Jersey, but also in what is now Delaware, Maryland, and Pennsylvania. We are told,

"In this direction the Swedish possessions extended to the great falls of the Susquehanna, in the present Pennsylvania, of which the first European cultivators were Swedes. With the Indians they lived upon good terms, and learned their language, but with the Hollanders incessant disputes arose. Our countrymen considered themselves as the rightful owners of the land they had bought, and resisted the pretensions and invasions of the Dutch. These again complained of the intolerable arrogance of the Swedes, who, they averred, paid no more attention to Dutch protestations than 'if a cow should fly over their heads.'"

This beautiful illustration is ticked off in the original, as though extracted from some Hollando-American state paper or other document, and we have carefully transcribed the marks, because, if the figure of speech be at all applicable, we must say it makes strongly against its employers. If the Swedes paid as much attention to the Dutch protests as they would have paid to a phenomenon so awful and so unwonted as that of a flying cow, (some vague nursery reminiscences of a cow reported to have jumped over the moon cannot invalidate the adjective "unwonted,") we should pronounce them the most attentive, and most polite too, of diplomatists. At least for ourselves, we confess, that not all the possible protocols which could be concocted by all possible conferences, nay, we believe no political occurrence short of internal revolution or foreign conquest, would commote our inward man a half, or a hundredth part as much as the sight of one of the "milky mothers" who daily perambulate the environs of London, gently rising from the road, yard, or field, and hovering over our own individual heads. But our present business not being to criticize Dutch reasoning or Dutch eloquence, we return to the colonial dissensions between the two nations.

"Should the Swedish governor"—writes Adrian van der Donck, (we suspect, but cannot positively assert, the brilliant inventor of the flying-cow comparison,) "receive reinforcements in time, we shall have more trouble with him than we had with the English or any of their governors."

The government at Stockholm does not appear to have duly exerted itself in behalf of the active colonists, not even supplying means of conveyance for those who were eager to seek, cultivate, and defend the new and more fertile Sweden. The Dutch built Fort Casimir on the western bank of

the Delaware, despite the earnest protestations of Printz, the second governor; and he, in despair at the neglect under which his promising colony languished, committed his authority to his son-in-law, Papegoija, as vice-governor, and in 1652 returned home. In 1654 Papegoija received the long-looked-for reinforcements, and Rising, who came out with them as governor's assistant-counsellor, and secretary to the College of Commerce, immediately upon landing took Fort Casimir. Papegoija now made over his authority to Rising, who, assuming the Dutch title of Director-General, concluded a new treaty of closer friendship with the Indians, during the negotiation of which, we are told that the interpreter employed by the Swedes being graced with a magnificent beard, the bald-chinned aborigines insisted that he should shave off one half the honor of his manhood ere he should presume to exercise his office on their behalf.

But the Dutch yielded their possessions only to such as were too strong for them, which the Swedes were not. In the course of the following year, troops were despatched from the United Provinces to Nieuw Amsterdam, at the head of which Governor Stuyvesant first recovered Fort Casimir, then compelled Rising to capitulate in *Christina Skans*, and finally overran the colony, leaving the colonists no choice except that of selling their property, or taking an oath of allegiance to the States General. A few Swedes and one Finn became Dutch subjects, rather than abandon their new homes; but the greater number, remaining temporarily for the avowed purpose of selling their property, managed, in conjunction with the Indians of New Sweden to maintain themselves in a sort of independence during the short remaining period of Dutch Sovereignty in North America. Lars Lock, the Lutheran clergyman who had accompanied the pious Swedes at the very first founding of the colony, remained with his flock; and the Hollanders, who had been less diligent in supplying their spiritual than their corporeal wants, now participated in his pastoral care.

Rising, upon his return to Sweden, vehemently urged the government to recover the colony. But Charles X. who now wore Christina's abdicated crown, was engaged in wars that fully occupied his resources. He therefore merely endeavored to obtain from Holland, by negotiation, some compensation for his overthrown company, and abandoned all pretension to *Nya Sverige*. It did not, however, long remain under the government of the United Provinces. In the year 1664 the English took the Dutch colony, subduing alike conquerors and conquered; and the new masters of the province readily allowed their Swedish subjects the free exercise of their religion.

THE MECHANICS' MAGAZINE, Vol. IV. No. 1, for July, contains upwards of fifty articles, several of which are exceedingly well prepared.

THE NEW ENGLAND MAGAZINE and THE KNICKERBOCKER, for August, are both already upon our table; but though well pleased with their contents, we must wait till the American Monthly comes to hand, before we examine them here. In the mean time, we quote from the Knickerbocker some floating memoranda, which invite attention, as bearing the initials of the venerable Mathew Carey, of Philadelphia.

Don Quixote.—It is not generally known, that a long period intervened between the appearance of the first and second parts of *Don Quixote*. Cervantes, it is supposed, had no intention of continuing his work—but finding that some person had published a spurious second part, he felt indignant; set fairly to work, and produced the second part, which completes the story of his hero. When young, I read the spurious edition in French. D'Irasci, who was given us in the *Curiosities of Literature* some anecdotes of the author and his work, makes no mention of the spurious second part; and it is therefore presumable that he was ignorant of its existence.

A successful appeal.—Bell, a Scotch bookseller in Philadelphia, who flourished during the revolutionary war, published a number of pamphlets, and some books, which he sold at exorbitant prices. A person came into his store one day, and asked for a pamphlet of less than one hundred pages, for which Bell asked a hard dollar; whereas a hard half a dollar would have been its full value. The person was surprised at the exorbitant demand, to which he made some objection. Bell took the pamphlet from the counter, and was about to place it on the shelf, saying, with a very pompous and significant air, "Sir,

this book was made for gentlemen." This tickled the vanity of the purchaser, who, not to lose his claim to that proud title, threw down the dollar, and took up the pamphlet.

Manner and Matter.—Virgil's celebrated sentence,

"Gratior est virtus veniens in corpore pulchro."

applies to books as well as to human virtue and "the human face divine." There can be no doubt that a very elegant edition of a work will make incomparably more impression on the mind, than the same work, ill printed and on bad paper. The first time I ever was struck with this idea was at the sight of a splendid edition of that delightful work, the *Economy of Human Life*, adorned with elegant engraved vignettes and tail pieces; a work, of which, it is true, I always thought favorably—but its beautiful morals made a much deeper impression on me, when I saw them in their court dress, "in corpore pulchro," than when they appeared in the dishabille in which I had been accustomed to behold them. The same idea often forcibly struck me afterwards—and on consulting a lady of a refined taste, she perfectly agreed in the theory. Whether, however, it is not merely fancy, may perhaps be questioned.

Satisfaction.—Dean Swift had a quarrel with a pompous, pragmatical attorney, on whom he determined to have satisfaction by his pen. Accordingly he turned *Æsop's* fable of the apples and the odore into verse—and when he came to the address of the latter to the former,

"How we apples swin,"

he subjoined—

"Thus at the bar, that booby Bettsworth,
Though half a crown outpays his sweat's worth,
Who knows of law, nor text, nor margin,
Calls Singleton his brother Sergeant."

Singleton was a first-rate lawyer, who stood as high in Dublin as our Binneys and Sergeants do here.

Bettsworth, stung to the quick, went very pompously to Swift, and holding out the paper, asked him, with a menacing voice and gesture: "Sir, are you the author of this infamous attack on me?" "Sit down, Sir," says Swift, very calmly—"Do not be in a passion, but let me tell you a short story.—When I was young, my dear father—heaven rest his soul!—seeing that I had a turn for scribbling, and fearful of the consequences, one day told me that he was afraid that propensity would some time or other bring me into trouble. 'And, my dear son,' added he, 'let me give you a piece of advice.—Should any libellous matter appear in any newspaper, and any fool or knave call on you to demand whether or not you are the writer—say no;—and therefore, Sir, I say no to you.' Bettsworth had no remedy, and went off grumbling—saying Swift was like one of his own vile Yahoos, besmearing people with his filth, and out of the reach of punishment.

Cardinal Wolsey.—All who know anything of his history, know that he was proud and ostentatious, and accustomed to the use of gorgeous costume, in which he piqued himself in outshining all the other courtiers of Henry VIII. One day, a prodigal nobleman, who was deeply in debt, and paid nobody, came into court in a dress, the splendor of which outshone that of Wolsey, who being piqued, addressed the nobleman, and said, "My Lord, it would be more commendable in you to pay your debts, than to lavish so much money on your dress." "May it please your reverence," replied the nobleman, "you are perfectly right: I humbly thank you for the hint, and now make a beginning, to show how I value your kind admonition. My father owed your deceased father a groat for a calf's head: here is sixpence—let me have the change."

Old Clocks.—I love to contemplate an old clock—one of those relics of by-gone times, that come down to us wrapt in veneration—telling their tale of simple yet touching interest. How erect and prim it stands in yon corner, like some faded specimen of maiden antiquity! Its face bears evident marks of beauty—of beauty decayed, but not obliterated. It is plain it has seen its best days, but equally evident is it that it was the pride and ornament of its day—unrivalled among its companions. How many eyes have watched the even tenor of its ways, as it moved on in the never-ending yet still beginning journey of the hours. Hours! aye, years have gone by, since that aged monitor of time first started on its course. And they who sat out with it, in the morning of life, whose motions were as active, and whose principles of vitality—if that may be called so which animates a clock—were as strong—where are they? Do they yet linger in the walks of the village? Can they be seen under the old oak tree, or at the door

of the cottage? I see them not there; yet there stands the old clock, clicking blithely and patiently as ever. The voice and footsteps are silent of those who journeyed up with it to the period of a good old age. A new race has sprung up, long and far removed from the other; and as they too watch the progress of the old clock, their hours are fleetly passing by, and time with them will soon be at a close. How impressive then the lesson taught by that old clock, and the simple inscription on its dial-plate—"Tempus fugit."

FOREIGN INTELLIGENCE.

FROM EUROPE.—By the packet ship *Hibernia*, Capt. Wilson, which sailed from Liverpool on the 1st of July, we have received our regular files of English papers up to the day of her sailing. There is no news of special importance. Spain and Portugal are gradually becoming quiet, and the question between Holland and Belgium is again said to be on the point of being decided. In France, the election returns are generally in favor of the Government; but almost all the opposition Deputies of eminence, who had lost their elections in those places where they were first candidates, had subsequently been elected in others. M. Lafitte had been returned from Rouen, and two other places. Odillon Barrot and Dupont de l'Eure have also secured seats.

The *Moniteur* contains the provisional treaty of friendship, commerce, and navigation, between France and the Republic of New Granada.

M. de Chateaubriand has published a letter. He had not been elected by any of the Carlist colleges, and now declares that had he been chosen he would not have taken the oaths.

In England it is now understood that Parliament will not rise till the second week in August. The debates in that body are confined almost exclusively to local questions.

On the complaint of the Lord Chancellor, the printer and editor of the *London Morning Post* had been brought before the House of Peers, for a libel on the Chancellor. The printer had been discharged, but Mr. Biddleston, the editor, was under examination when the last accounts came away.

The subject of Post Office reform had been taken up, and excited considerable discussion in Parliament.

The British government has resolved to form a new settlement on the southern coast of Australia, near Spencer's Gulf, which contains a harbour, named Port Lincoln, of sufficient capacity to contain in its three coves all the navy of England.—Captain Stuart, of the 39th regiment, reports that 5,000,000 acres of the richest land he ever saw approximates on St. Vincent's Gulf, and abuts on the Murray River, which is navigable for large craft for 100 miles in an easterly direction; Kangaroo Island lies off the entrance of these two gulfs, and abounds in salt, fish, seals, kangaroos, and possesses a good soil. The whole lies in latitude from 34 to 36 S. and in longitude E from 136 to 140. An interesting feature in the establishment is, that all the land is to be sold, and the produce is to be expended in the encouragement of agricultural families to emigrate. It is, according to the evidence of several officers who have examined it, a land of corn, wine and oil.

Dreadful Fire and Great Destruction of Human Life: fifteen persons killed and burnt to death.

OLDHAM, 30th JUNE.—On Saturday morning last, about two o'clock, a most dreadful fire took place at the Union Mills, about a mile from Oldham, belonging to Mr. Lea Birch. The cause of this great calamity appears to have thus originated:—A machine-maker, whose lathes, &c. were turned by Mr. Birch's engine, and whose shop adjoined the cotton mill, was very busy, and was permitted, in consequence, to have the use of the engine during the night. Some part of the mill-wright work, by which his lathes, &c. were turned, wanted oil or grease, and as the speed was great, the shaft-necks or bearings became heated, and thus set fire to the place.—Although the fire-engines and military were soon on the spot, they were found both to be perfectly useless, the fire having in the mean time made such rapid progress. As to the cause of such waste of life, the following may be depended

upon:—A young man, in rather an early part of the fire, by the falling of some part of the building and machinery, had got entangled by the legs, and he could not extricate himself. This being seen by the bystanders, excited, as may be supposed, their feelings in the highest degree, and, throwing aside all fear and all prudence, too, every one seemed foremost to assist in saving the poor fellow from a roasting death. Whilst thus laudably employed, a wall unexpectedly fell, and buried 15 in the ruins, besides many others being seriously injured. At 3 o'clock, on Saturday, only 7 bodies had been dug out; since that time 7 more have been found—some presenting a spectacle too horrible to behold: some without head, others without both head and legs, and some without either head, legs, or arms. But I must drop a narrative like this. The parties thus suddenly snatched away are chiefly young persons. The destruction of the property is most complete. The amount of damage has not been ascertained: the property, both machinery and buildings, were insured, and it is believed fully. There were many hands employed, all of whom, who have escaped, will have to find fresh employers, which the hands will regret, inasmuch as this mill was by the hands generally deemed a first rate mill for the employed.

Don Carlos, of Spain, family, and suite, had left Portsmouth for Gloucester Lodge, Brompton, which had been hired for their residence. His other attendants, 160 persons, had gone to Hamburg.

The honest Spanish Patriot, Gen Mina, was complimented with a splendid dinner at the Albion Tavern, London, given to him by noblemen and gentlemen, on the 29th ult. The full account of this dinner occupies nearly two columns of the *Morning Herald*, for which we have not room.

IRELAND, JUNE 27.—*Dreadful Affray and wholesale Slaughter in Kerry.*—One of the most sanguinary faction fights that ever disgraced this unhappy country, took place on Tuesday at the races of Ballyheag, 13 miles from Tralee, between two clans, the Cooleens and the Lawlors, who have been at feud above half a century, and still defy both the law and the gospel, in taking vengeance of each other whenever opportunity offers from generation to generation. Rumors of the intended fight having been in circulation some days previous, and information having been given to the country magistrates, they applied to the officer commanding at Tralee, for a force sufficient to keep the peace at the races. Accordingly, on the day previous, (Monday) a strong detachment of the 69th Regiment with three officers marched from Tralee barracks to Ballyheag, and on Tuesday took up a position on the race-ground, on the bank of the river Cashen, to be ready to interfere on the first symptoms of the expected riot.—The two factions soon appeared on the ground in great numbers, but remained quiet until the races were over, at 3 o'clock. Then the appointed battle began in earnest on the river strand with sticks and stones. A gentleman who witnessed the contest describes it as one of the most savage and merciless scenes he ever witnessed or could imagine to have taken place in a Christian country. The soldiers could do nothing to stem the torrent of fury and blows that raged on every side. At least 1,000 men were engaged; for in addition to the resident parties, numbers came from miles around to take part in the conflict against men whom they had never seen before; all for the pleasure of a fight!

PORTUGAL.—By the Pike Packet, from Lisbon on the 15th, and Oporto on the 19th, arrived at Falmouth, which is the bearer of several passengers, both Carlists and Miguelites, we have the *Chronica de Lisbon* to the 14th instant. In the number of the 11th there is a despatch, addressed to the Marquess de Saldanha, relative to the National Battalions, which states, that although, by the decree of the 10th of June, 1832, their services were obligatory only until the termination of the civil contest, yet seeing the state of disorganization consequent upon that contest, and the time necessary for the formation of a national guard, the Minister of War felt assured that these battalions would be impressed with the necessity of maintaining their present organization until a national guard, of which they would form a part, should be embodied: their services, in the meantime, being restricted to reviews, religious and national festivities, and to such extraordinary circumstances as should be indicated by special order from the Minister of War. The *Chronica* of the 13th contains the regulations approved by the Regent for the government of the Society of Primary Instruction, to which we yesterday alluded, and from which we extract so much as relates to the object of the institution.

It is said of the new Chancellor of Oxford, that he has already transacted more actual business of the University than his predecessor during the whole of this official career.

The Dean and Chapter of Exeter, in new paving and beautifying their ancient cathedral, found the leaden coffin of Bishop Bitten, who died in 1307. Near the bones of the finger was discovered a sapphire ring set in gold, in the centre of which is engraved a hand, with the two fore-fingers extended in the attitude of benediction.

Several heavy failures among the houses engaged in the grain trade have occurred in Glasgow. It is understood that one of these is to a very considerable amount.

It is amusing to see the name of Joseph Bonaparte among the stewards for the dinner given to Mina, who became the idol of his countrymen in consequence of his determined opposition to Joseph's pretensions as Sovereign. Who could have anticipated such a circumstance in 1810!

There are at present living in the small village of Heighington, in the county of Durham, where the population does not exceed 400 or 500 souls, 24 individuals, whose united ages amount to 1,977 years. The oldest is 90, and the youngest 79 years of age.

Mr. Pea Green Hayne has been discharged from the Insolvent Court. The debts named in his schedule amount to £20,395. He proved that for many years past he had lived under very prudent management, but the folly of a former period bore him down.

The election for Edinburgh took place lately, when Mr. Abercrombie was returned without opposition.

A new valuation of the West Riding of Yorkshire has just been completed for the county-rate assessment. The town of Leeds, which, in 1816, was assessed at £90,000, is now valued at £190,000, and the other large towns have been proportionately increased.

The Duke of Wellington, it is said, has expressed his determination to adopt some strong measures to check the destructive system of credit hitherto so ruinously permitted among the students at Oxford.

During the past year, the receipts of the Society for Promoting Christian Knowledge have been rather more than £74,000, the expenditure \$72,000. The publications have amounted to 2,152,080 including 82,000 Bibles.

An explosion of 60lbs. of powder took place on Friday week, at Dartford Mills, by which a man named Bennett was dreadfully burnt, and three other workmen slightly wounded. During dinner hour, the workmen amused themselves in a meadow where the steam-engines were situated, when a ball on which some gravel had collected was struck into the mill, and rolling under a five tons stone, produced so much friction as to cause explosion.

Mr. Powell, the unhappy gentleman who shot himself, in consequence, as it has been supposed, of hearing of the death of his son through a fall from his horse at Ascot, had the affliction of losing all his sons, five in number, in the course of a year. The remains of the last were consigned to the new cemetery in the Harrow-road, London.

The House and estate of Mr. Wilberforce, at Highwoodhill, near Hendon, Middlesex, are at present on sale. The situation is one of the most beautiful in the neighborhood of London.

Lord Huntingtower has set out 38 gardens for the labourers of Great Ponton, and it is his intention to follow the same laudable plan upon his estates in other parishes.—[Stamford Mercury.]

The Vienna Congress closed its proceedings on the 12th instant.

It appears by the German papers, that the English Mediterranean squadron is again making hostile demonstrations against Turkey, on the surface, but Russia at the bottom, and that a French fleet is hastily fitting up to co-operate.

Don Miguel sailed from Cascaes Bay for Genoa on the 6th instant, in the Stag, accompanied by the Nimrod. Admiral Napier gets £16,000 prize money by his gallant capture of the Miguelite fleet.

A curious statement has been published by one of the papers in Madrid, respecting the number and revenues of the Spanish clergy. From it, it appears that the number of buildings appropriated to religious purposes throughout Spain, is 28,249; that that of the clergy is 159,322, and that of the friars and nuns 96,878. The entire amount of the ecclesiastical revenues is calculated to be \$50,000,000, and of this

sum the part consumed by them is shown to exceed the whole revenue of the State, by some \$8,000,000.

M. Dupin, in a letter to a friend at Paris, says: "I cannot conceive why the English should be reckoned a grave people. Everywhere I go I see none but people bursting with laughter."

"Taking for Granted," is the title of a new work upon which Miss Edgeworth is at present engaged, and which will soon be given to the public. We take it for granted that it will be looked for with a good deal of interest.

M. Sismondé, the historian of the Franks and the Italian Republics, in publishing a History of the Fall of the Roman Empire, in two volumes, for Lardner's Encyclopædia.

The corporation of Madrid have paid a handsome compliment to the memory of the great Cervantes, by erecting a handsome marble tablet on the house where he resided, in the Calle de los Francos, and which chances to be that in which Mr. Scott, the Attachee to the Legation, at present lives.

The Duchess of Berri has, it is stated, at last signed a formal act of renunciation of the guardianship of her son, the Duke of Bourdeaux. This, it appears, was insisted upon by Charles X., upon the occasion of her last visit to Prague, and in consequence of her marriage. Notwithstanding all that has been said, there is every reason to believe that Mad. Luchessi Palli is in *mauvaise odeur* with the rigidly moral doctrinaires at Prague, where her indiscretions are more deprecated than any other misfortune which has befallen the legitimate cause.

Ibrahim Pasha at Nazareth.—One of the most curious circumstances that I saw in Nazareth was Ibrahim Pasha's visit to the church of the Convent, where, in a grotto, having a double exit and under the high altar, the friars show the spot which they call that of the incarnation. He examined all the church with proper attention, and appeared much struck with the splendid vestments, the gifts of European sovereigns, which, he said, far exceeded any thing worn by the Moslems. He promised that the convents should be treated with justice. This visit to a Christian church before he went to the Mosque in the town is said to have been dissatisfactory to some rigid Mahomedans, but Ibrahim appeared not to regard their prejudices.—[Letter from Damascus.]

Correspondence of the Journal of Commerce.

U. S. SCHR. SHARK, MARSEILLES, }
28th May, 1834. }

We started from this place on the 16th, leaving the Delaware, 74, and Constitution frigate there; but we were doomed to make an early return, by having run foul of the French steam vessel of war, "Rapid," in what we considered a shamefully careless manner; or what is worse, intentionally. Had she *designed* the encounter, it could not have been done more effectually than it was, or more damage inflicted upon us. We had beaten out the Bay of Toulon, and were about doubling the Cape which forms the Bay, and this steamboat was going in; of course before the wind. She had therefore the choice to pass astern of us; or if a contact was probable, to stop her wheels and let us pass sufficiently ahead to be entirely free of collision. The Rapid continued to approach us, and *rapidly* too; for she had full steam on, besides the power of the wind and sea forcing her towards us; and evinced a determination on the part of her Commander to pass *ahead* of us, of which, when we were aware, it was too late to tack, because we would have luffed directly into his vessel, and given plausible appearances of *intentional* contact on our part. We therefore pursued the only course left, by keeping away, though on a lee shore, and were using our utmost efforts to avoid her, when she finally struck us; carried away our flying-jib boom and rigging attached; then dropping astern, she struck our fore-chains, being thrown upon us by a heavy sea, and carried away the main rail, besides injuring the channels and altering the shape of our bulwarks there. With the next sea she was thrown upon our main chains, and did nearly the same mischief there. Having thus done us all the harm he could, he began to retrograde with the paddles of his (too well known to us) Rapid, and was soon clear of us: he would not even burst his boiler for our satisfaction, and took good care to injure his vessel as little as possible. What manifested mostly a malicious intention on the part of the Commander of the steamboat, was his not stopping her wheels until *after* she struck; when he must have known a short time before the meeting, that such was inevitable. We made the best of our way back, and with the assistance of all the Delaware's mechanics, we were soon refitted, (such a vessel as that, is a little world

to ours,) and we finally got away on the afternoon of the 18th. Any person the least gifted with his senses, on viewing the damage done to the two vessels in the encounter, and the situation of those damages, cannot but decide that the Shark was not in the least to blame; yet this modest, *unretiring* Frenchman when called upon, ascribed with perfect non-chalance, all the blame to us. Yours, S. H. K.

[From the Barbadian of 5th July.]

FROM THE WEST INDIES.—On the 1st of August will commence the grand experiment of releasing the black population of the entire British islands from slavery. The result of a few years will go far to test the experiment of their capacity for self-government and self reliance. It is our earnest hope that it may be successful, for although the beneficial results of the St. Domingo emancipation are worse than doubtful, it does not follow as a *certain* consequence that they may not be more felicitous in the British Islands.

The qualifications of the British act of Parliament for the liberation of slaves are not particularly informed of. One of its provisions, however, seems to be, that during the period of their apprenticeship or semi-servitude, the power of inflicting corporal punishment upon them is taken away from the master and conferred upon the Magistrates. In reference to this subject, the Barbadian of the 29th June remarks:—"Near as the 1st of August is, we think that proprietors would rejoice at this plan being at once the law—but with the slaves generally we apprehend the alteration is unpalatable. They seem to dread this change of authority. We have heard of one respectable proprietor having explained to the slaves under his charge the approaching change of system; and on his proposing to them to give up at once the power of punishing them himself, and referring to them, they one and all expressed their aversion to being complained of before a magistrate, and begged him to continue to exercise his own authority, and to punish them in his own way if they offended. The time is coming when justice—tardy justice, will be done to the general character of the slave proprietors."

In Antigua, the eventful first of August has been set apart by a Proclamation for solemn religious observance, in commemoration of the unqualified freedom of the slaves which then commences. The legislature of that Island convened on the 6th June, and the bill that had been passed for the unrestricted freedom of the slave population received the sanction of the Governor on the 14th of the month.

SUMMARY.

Harvard University.—The President of this institution has submitted a report of its recent difficulties to the Board of Overseers, convened at the Council Chamber, in Boston, and the report was referred to a committee consisting of Messrs. J. Q. Adams, Levi Lincoln, B. T. Pickman, A. H. Everett, and the Rev. D. Codman. This committee will report at the next meeting of the board in September.

UNIVERSITY OF VIRGINIA.—*Charlottesville, (Va.) July 25.*—The session of the University closed on Saturday last. A large and intelligent audience attended the exercises of the public day. Three very handsome essays were read by Mr. Young of Richmond, Mr. Minor of Louisa, and Mr. Holeman of Fluvannah; three eloquent orations, the finest we ever heard on a similar occasion, were delivered by Mr. Frazier of Augusta, Mr. B. F. Minor of Albemarle, and Mr. Lindsey of Mass. They were all in the happiest style—but we have no space nor tongue for eulogy—suffice it to say, they were the best effusions of the kind we ever listened to. Various gentlemen received honours (dearly earned and richly merited.)

This noble institution is now in a most flourishing condition. Governed by able Professors, who possess in an eminent degree the capacity of stimulating others to the acquisition of science, it cannot fail, while conducted on the same wise and liberal system, which has heretofore characterized it, to bestow incalculable blessings on our country. Yearly, it will return, as it has just done, to the bosom of society, many a bright ornament—many a chivalrous and devoted patriot.

Mr. Madison recently resigned his seat at the Board of Visitors, which has been supplied by the appointment of Wm. C. Rives, Esq. Joseph C. Cabell, Esq. has been made Rector—vacated by the resignation of Mr. Madison. Dr. Warner, of Baltimore, a gentleman of distinguished eminence in his profession, and who has been for several years con-

nected with the Summer School, in that city, has been elected by the Visitors, Professor of Physiology, Anatomy, and Surgery, in the place of Dr. Johnson, resigned.

Mr. CLAY has arrived at his residence at Ashland, Ky. in improved health and spirits.

At Lexington, Ky. on the 26th ult. funeral honors to the departed Lafayette were paid, and a Eulogy on his life and character was delivered by HENRY CLAY, Jr. It was pronounced in presence of more than five thousand spectators, and the papers speak of it as an impressive and eloquent production.

Detroit.—A Detroit paper just received mentions the occurrence of several sudden deaths in that place, caused, as the editor believes, by the extreme heat of the weather and the imprudent use of cold water; and this paper takes occasion to notice and contradict the reports which had been circulated of the existence of cholera in Detroit. There is, it says, no shadow of foundation for such reports.

A Floating Village!—The Steam Boat North America, Capt. Hoyt, arrived here on Tuesday Evening, from New York with six hundred Passengers! A few more such boats would empty the commercial Emporium. With such a steamboat as the North America running for fifty cents, it is so much cheaper to travel, that People cannot afford to stay at home.—[Alb. Eve. Jour.]

NEW GOLD COIN.

Treasury Department, Aug. 2.

The annexed letter will enable the public readily to distinguish the new from the old coins.

As the date could not, by law, be altered, but the cap and motto might be legally omitted, and would serve plainly to distinguish the new impression, that course has been adopted at the mint till the commencement of the next year, when the motto will probably be restored, and the date of the new year, instead of the omission of the motto, will be found sufficient to indicate the change in the coin.

MINT OF THE UNITED STATES, }
Philadelphia, 1st Aug. 1834. }

SIR:—I have the honor to inform the Department, that the coinage of Gold, according to the new ratio of gold to silver, commenced this morning, being the earliest day permitted by the provisions of the act.

In making this communication, it may be satisfactory to recur to the peculiarities by which the new gold coins are to be distinguished from those of former issues. They are the following:

On the face, the new coins will be readily distinguished by a head of Liberty disencumbered of a cap.

On the reverse, the surplus motto "E Pluribus Unum," which for many years has occupied a portion of the disk above the figure of the Eagle, is now omitted.

These changes, independently of the facility to be derived from them, in distinguishing the future from the past emissions of our gold coins, are recommended by a nearer adherence to the provisions of the law, as well by the rules of taste and classic authority. The views in these respects, presented in my communications of the 9th ult. having met your approbation, will, I doubt not, be sustained by the judgment of the public.

In regard to the omission of the motto above referred to, the same improvement was introduced in the quarter dollar in 1831, the subject having, by communication of the 29th January of that year, been submitted to the President, through the Department, and approved.

The Eagle of the former issues weighs 270 grains, the Half Eagle 135 grains, and the Quarter 67 1/2 grains. The Eagle under the present law, will weigh 258 grains, the Half Eagle 129 grains, and the Quarter 64 1/2 grains. These weights are recited because desirable to be kept in mind, rather than as affording a farther criterion of distinction between the two classes of coins—since an inspection, much more cursory than that of weighing, will distinguish them by the preceding characteristics.

The Eagle and Half Eagle of the new coinage will be less in diameter than those of the former emissions, and that in a greater proportion than the diminution of weight would indicate. This, however, though a decided amendment of our coinage is of less value as a distinctive mark, since the comparison would require the presence of coin of both classes.

I have the honor to be, with great respect, your obedient servant,

SAMUEL MOORE,
Director of the Mint.

Hon. LEVI WOODBURY,
Secretary of the Treasury.

Henry Gahn, Esq., Swedish consul at this port, was found dead in his chamber on Sunday morning. The body was sitting, and leaning upon a table.—The death was probably occasioned by a fit. Mr. Gahn was about sixty five years of age, and much esteemed.

Western Marine.—The fine new brig Illinois, arrived a short time since at Chicago. This vessel will carry 250 tons, and is intended as a packet between Buffalo and Chicago.—[Courier.]

Thomas Moon, a waiter at Congress Hall, Saratoga, died suddenly on Saturday last, by drinking cold water. He left a large family in dependant circumstances—and as soon as the fact became known, a purse of \$330 was made up for their relief by the people at the Hall.

MONTREAL, JULY 29th.—The hopes generally entertained at the end of last week of the disappearance of the prevailing malady, were sadly disappointed by a serious increase of mortality on Saturday, Sunday and yesterday, which deprived us of several most valued and estimable members of the community. We are gratified in being able to state, that a most favorable change in the general health has manifested itself to day, fewer cases, and those of a less severe description, having been seen by our leading physicians for the last twenty-four hours.

The New Orleans Bulletin of the 17th of July makes a favorable report of the health of that city.—The weather had been warm, but good health prevailed. The Bulletin concludes its paragraph with the following statement, to the truth of which the editor testifies from his own personal observation:—

"There is a matter which deeply concerns the health of the people, an abuse, which has been too long suffered to exist. If it should be told abroad that in New Orleans the water was taken up from the Gutters and sold to the citizens to drink, it would not be believed, yet such is the fact. We have seen water sellers filling their casks from the gutters of canal street. The water of the river is filthy almost beyond endurance, but with the addition it receives by washing over the rotten offals and other nuisances deposited in gutters, it must be little less than poison."

BALLOON ASCENSIONS.—[These feats of aeronautic daring have become quite numerous of late in this country: several Americans having taken up the business with all the spirit, and we may say with all the success, of the most accomplished foreigners.—The mail of Saturday brought us accounts of two ascensions,—one at Washington by Mr. Ash, and the other at Boston by C. F. Durant, Esq. of Jersey City. The account of the ascension of the latter, as given by himself, in the Boston newspapers, is, from the singular intrepidity displayed by Mr. Durant, unusually interesting.]

To the Editors of the Morning Papers:

GENTLEMEN: At 5 hours 50 minutes, by my time, I arose clear of the Amphitheatre, with barely sufficient buoyancy to keep the balloon in a horizontal position, until passing over the common, I threw over two bags of sand ballast, when the ascending power increased and the balloon rose finely, forming an angle with the horizon I judged of 30 or 40 degrees. This gradual ascent continued until 9 minutes past 6 when the barometer fell to 23.22. The view now and a few minutes previous was the most varied and interesting I ever beheld. On one side the vast ocean, with hundreds of vessels for many miles round. The ocean presented an almost unbroken surface, covered apparently with a light mist or fog, and the sun striking the sails of the vessels, gave them much the appearance of feathers floating on the smooth surface of a pond. I could perceive in the wake of those nearly beneath me, a difference in the appearance of the water, caused by their motion; it was very perceptible in the wake of a steamboat which I passed near Nahant; it had much the appearance of heavy lines in engraving, diverging at or near right angles from the ground work. This gave me an idea of their course and probable wind, which I judged was more favorable to reach Cape Ann. I descended very slow to ascertain at what height the wind would haul, yet perceiving no sensible difference until one-eighth of a mile from the ocean; here, by ranging with a schooner which a few minutes before was ahead of me, standing out under a heavy press of sail, though now she had fallen in the rear, I could perceive from her that my course within one eighth of a mile from the ocean would strike the eastern point of Cape Ann—but it was impossible to keep the balloon within that distance of the surface

without a great expenditure of ballast or striking the water, or soaring above into the lower edge of the upper and more westerly current, which would have carried me to the eastward of Cape Ann; therefore I resolved on letting go both anchors to trail in the water. They struck at 6 hrs. 30m. with 3 or 400lb. of cable, a few miles beyond Nahant, though the aerostat was moving with such velocity as to prevent the anchors sinking more than 10 or 15 feet from the surface, and indeed the velocity frequently caused them to skip over the surface. This gave the balloon an undulating motion, sometimes 2 or 300 feet high, and sometimes barely touching the water; by this means I was enabled to secure all the advantages of the wind, and was making a straight course for the Cape, when a heavy flaw of wind struck the balloon with such force as to throw it in a horizontal line with the car, which struck the ocean and filled with water.

My car being of open wicker work, I judged by throwing out some of the ballast the water would run out, and I should be enabled to rise clear, but it was drawn with such force that the water could not run out. This occurred at 6h. 37m. and left me partially immersed in water. Judging it difficult and dangerous to continue as far as Cape Ann in that situation, and seeing a sloop to the leeward of me, and within a quarter of a mile from the course I was taking, I judged by retarding its progress as much as possible, she would be able to intersect the line I was making, and arrest the balloon; but, instead of bearing down with the sloop, the small boat was manned, and before they could intersect my course, I was a mile beyond them.

A sheet, which I carry to fold the balloon, and my flag I had spread as much possible across the car to retard my progress for this boat. This sunk me to the waist in water, and materially increased the danger and difficulty of reaching the cape. At this time a schooner at the eastward was bearing down, and my car being so far in the water, she came up with me at 7 o'clock. I exchanged a few words with the captain, requesting he would pass me close under my lee and throw a line. I saw a man attempting to throw a dippy line, and told them it would not hold me, when they caught up a very stout line which I made fast to the car. This line proved to be the halliards, and the schooner on the wind, with the force of the wind on my balloon, and the line drawing from mast head, carried me up 30 feet, when I descended with such velocity as to be for the first time completely immersed in water.

A second time I was carried up in like manner, and when about 300 feet high, a flaw of wind upturned the balloon so as to exhaust the gas in an instant. In falling, I was under water half a minute, though I had on a gum elastic life preserver, which Mr. Dorr of the Roxbury factory, had the kindness to lend me. Yet I was so entangled with the cords, that thirty seconds elapsed before I could extricate myself and come to the surface, where I was comfortably resting myself on the life preserver, when Captain Spaulding, of the schooner Miner, of Thomaston, came to me in a small boat and took me and the aerostat on board. With so much fatigue, and having tasted nothing but water since breakfast, you may imagine, gentlemen, that I felt much relief in my new quarters.

I was shown every attention by Capt. Spaulding, who gave me clothes to shift, and soon prepared me tea, which I partook of with a fine appetite. I rested well on board, and this morning, on arriving in the harbor, Captain Spaulding had breakfast prepared, which, in company with Mr. T. W. Partridge, a passenger, and Capt. Spaulding, I partook of in fine cheer, and arrived at my lodgings, Tremont House, at half past 9, enjoying my usual good health and spirits. I feel under many obligations to the citizens generally for their kind attentions, and to the gentlemen who kindly assisted me to fill the balloon. In consequence of the violent wind, I deemed it prudent to leave the rabbit and parachute, which would have been very cumbersome. When over Boston, I found my barometer half way through the car, the ring by which I suspended it having broken off; and while attaching a cord a few inches from the top, I broke the thermometer. This left me nothing but the barometer, which, at starting, stood 20 01—ther. 77 deg.; at 6h. 1m. Bar. 24 2; at 6h. 5m. 23 52; at 6h. 9m. 23 32.

The balloon is much injured, and if it can be repaired, it must require two weeks. I shall ascertain in a few days; and if it can be done, I shall be ready and willing in three weeks to make another ascension for a liberal Boston public.

Yours, &c. C. F. DURANT.
Tremont House, }
Boston, Aug. 1, 1834. }

[FOR THE NEW YORK AMERICAN.]
DESCRIPTION OF THE GRAND PAWNEE VILLAGE.
(Continued from page 397.)

Immediately after our wild welcome by the different Pawnee chiefs, we started onward for the village. It appeared as if every man, woman and child had looked upon the day of our arrival as one of jubilee; the boys had thrown aside their bows and arrows, the females had abandoned their drudgery, and the old had ceased their songs of former victories, to throw themselves up for the festival; and now that the reception was over, and all the requisite awe of annihilation had been impressed upon us, they threw aside the stern, unbending character of the Indian warrior, and pressed around us as we rode along, with all the kind hospitality of hosts, in receiving their most welcome guests.

In different directions, small bands of the young men would amuse themselves by dashing around the party at the full speed of their horses, and attempting to oust each other from their saddles by the violent collision of their animals. Occasionally a few would start off in a race across the plain, exerting their utmost skill to outstrip their competitors, and endeavoring by whooping and screaming, and by clattering their arms in the ears of their frightened steeds, to excite them even beyond the mad rate at which they were then sweeping over the prairie.

Others of the young men hung around the party, making their remarks concerning its different members, and occasionally exciting loud peals of laughter from their comrades, which, however, were frequently cut short by a stern word from one of the chiefs.

The whole road, from the plain to the village, was lined with women and children, who had not dared to approach during the formalities of our reception, but who now all eagerly pressed forward to gaze upon so unwonted a sight as that of a white stranger entering freely into their village; and all anxious to gratify that curiosity which is peculiarly strong in the bosom of an Indian, more especially if that Indian be a female.

They were nearly all mounted upon the backs of the little stiff maned drudge horses of the village, sometimes singly, but generally in clusters of two and three.

In particular, one wilted, gray headed old squaw, with a family of four children under her charge, attracted our attention. She was mounted upon a little wall-eyed, cream-colored poney, with a roach mane and a bob-tail. There was a lurking devil looking out of his half-closed eye, the very antipodes of his rider, who sat upon his back like the picture of patience. Her charge she had arranged as well as could be expected from a person in her situation. One little fellow, whose two eyes gleamed like sparks of fire from beneath the long tangled hair, which nearly covered his face, was striding almost upon the neck of the horse, armed with a heavy Indian whip; one little one was dozing in her arms, another was clinging tightly to her back, and the face of a fourth, like the head of a caterpillar, just ready to emerge from a cocoon, was peering from the mouth of a leather bag, which was lashed between her shoulders.

But though the old lady thus scrupulously divided the burden with her steed, she seemed far from satisfied with his situation, and at last determined in good earnest to rid himself of his incumbrance.

Tossing his head in the air, he commenced waltzing and capering around upon his hind feet, to the great discomfiture of the old squaw, who, reaching out both hands, clung with might and main to the high pommel of the Indian pack saddle, while two of the children, left to their own guidance, like so many monkeys, clung around the body of their protectress.

The horse, finding that the first experiment had not succeeded to his satisfaction, altered his plan of action, and planting his fore feet firmly upon the sod, in the next instant he flourished his heels as high in the air as his head was the moment before; but still his rider continued to cling desperately to the saddle, making use of every expression of Indian obsequiousness and soothing, in a vain appeal to the sensibilities of the restive animal, who still continued his capers, to the great delight of the naked little elf who was perched upon his neck, evidently aiding and abetting the mutiny by a sudden switch of his whip, and occasionally casting back his sly laughing black eye upon the old lady and her brood, who were screaming and chattering behind.

At last the animal finding that no physical force of his could free his back from the burden, and coming to the conclusion that the less time he spent in accomplishing his journey the shorter would be his

ordeal, he started off at a full gallop for the village, and we caught our last glimpse of him as he dashed between the lodges of the town, urged on by the lash of his imp-like little rider.

When the party had once commenced its march, it was not long before they reached the point of destination; for though the Indians crowded forward to satisfy their curiosity by gazing upon the arms and accoutrements of the whites, they yet remained at such a distance as to offer no obstacle to their progress.

This rule of etiquette was, however, occasionally transgressed, by the troops of untrimmed, goblin-looking little urchins who hung upon the heels of the party, crowding in droves around the baggage-wagons, and gazing with a mixture of terror and wild delight upon the wearied movements of the oxen, who, with lolling tongues and reeling steps, were almost inch by inch winning their way to the village.

Several times when a circle of little curious faces, anxious to see, but ready to run, had formed around the team, a sharp, shrill scream from some more mischievous of the gang, would in an instant disperse all their rallied courage, and send them scampering at full speed over the prairie.

Another grand object of attraction was a negro belonging to the party, who trudged on in front, surrounded by a rabble crowd of women and children. From the first moment of our arrival he had been an object of intense curiosity, and had been gazed at with a mixture of fear and astonishment by the whole nation.

But there is an old saying, that "familiarity breeds contempt," and in this case it was verified, for, by degrees, the circle which formed around him at a respectful distance, became more and more compressed. It was in vain that he attempted to rid himself of their company; they swarmed around him like ants—if he quickened his pace, they did the same; if he lingered along, they were equally slow; and if he turned upon them, they scattered in every direction; but after a while even this wore off, and they finally hemmed him in so that it was almost impossible to move for the crowd. When they had thus closed upon him, the lurking spirit of deviltry began to show itself; they tugged at his coat tail, they pulled his pantaloons, and they jostled him until the perspiration, the effect of fear and his exertions, poured in streams down his face. At length one toothless gray headed old crone, attracted by the glistening appearance of a black leather cap, which was mounted upon his head, made a violent snatch, and seized hold of it; a hot scramble then ensued for the possession, which, after much derangement to the wardrobe of the negro, and much detriment to the hides of the Indians, was obtained by the rightful owner, who had no sooner regained his property, than he opened his shirt, and placing it next his bosom; he buttoned his coat over it up to the chin, evincing his respect to the nation by performing the rest of the journey *uncovered*. He was afterwards known among the Indians by the title of (Wah-sah-be), the Black Bear.

The Pawnee village is situated in the open prairie, at the foot of a long range of hills, and within about fifty yards of the Platte river, which at this place is about two miles broad, and is very shallow, being constantly forded by the squaws, who visit the different islands, and obtain from them the only fuel and building material to be found in this part of the country.

The lodges in the town are numerous and built close together, without the least regard to regularity; they are hemispherical in their shape, and are covered with earth to the thickness of several feet; they vary from twenty to thirty feet in height, and some of them are nearly ninety feet in diameter; the large circular or domelike roofs of the buildings are supported from the interior by pillars formed from the upright trunks of trees, and large berths, or cribs, for sleeping, are ranged around the interior, against the wall of the building.

In the centre, a hole is dug to contain the fire, the smoke of which is permitted to eddy through the building and escape at its leisure through a small hole in the roof, which forms the chimney, and at the same time serves to let in the only light which reaches the interior of the lodge.

On account of the scarcity of wood, several families congregate together in the same lodge, and are seen throughout the whole day, lounging and sleeping before the fire, or gorging themselves from the large kettle filled with buffalo flesh, which is perpetually over the fire.

Upon entering the village, we found the tops of the lodges completely covered with women and

children, whilst the area in front of the Chief's dwelling was equally crowded. When we reached the front, the Chief, who had ridden in advance of the party, stepped from the dark passage which formed the entrance to his abode, to meet us. He was completely enveloped in a robe of white wolf skin, upon which was painted an hieroglyphic account of all the achievements he had ever performed in his different war parties. Upon the approach of Mr. E., he advanced towards him, and taking the robe from his own shoulders, presented it to him, requesting him (through the Interpreter) to keep it for his sake. He then ushered the party into his dwelling, and pointing out the place allotted for the reception of the contents of the wagons, he called together a number of Indians, and gave them directions to assist in unloading, while in person he stood at the door, watching the movements of his men, to prevent any attempts at purloining—a crime too common among the lower classes of an Indian village.

Nearly half an hour had elapsed in this way, during which time the lodge was becoming more and more crowded. One dark form after another glided with a noiseless step over the threshold, moving across the lodge until they reached the darkest corners. Here they seated themselves upon the ground, and shrouding their shaggy robes around them, so as completely to screen the lower part of their faces, they fixed their unwavering gaze upon the strangers, while from the dark parts of the building their eyes seemed to shine out like glowing balls of phosphorus.

Not a word was spoken—no undertoned conversation was carried on—but all was silence, save the hurried footsteps of those who were busied according to the directions of the Chief. No jests were uttered, for we were now under the roof of their leader, and any word spoken in derogation of his guests would have called down a speedy return of vengeance.

Upon our first entrance into the lodge a large kettle, which would contain about five gallons, had been filled with buffalo flesh and hard corn, and placed over the fire; and now that we had become fairly settled in our abode, and the bustle of unloading had in a measure passed away, the wife of the chief (by-the-by he has five of them) poured the whole of its contents into a large wooden bowl, and arming each of us with a black dipper made of buffalo horn, made signs for us to fall to.

We did not wait for a second invitation, but immediately commenced an attack with both fingers and dippers into the mountain of food which was placed before us. We had not eaten since daylight it was now late in the day; and the appetites of the party, never particularly delicate, having increased in proportion to the length of their fast, the devastation was enormous. But every excess brings with it its own punishment; and our case was not an exception to the general rule; for scarce had we finished our meal, when a little Indian boy, half covered with a tattered buffalo skin, forced his way into the lodge, elbowing in among the warriors with all that transient air of consequence worn by little characters when charged with some mission of importance: he came to the side of the chief who was sitting near us, with his legs doubled under him, after the Turkish fashion, and whispered in his ear.

The chief then rose, and announced that the Long Hair, the second warrior of the village, had prepared a feast in honor of our arrival, and was waiting for the party to come and partake. There was some demurring as to the acceptance of this second invitation; but the Interpreters informed Mr. E. was there no resource, as eating your way into the good will of the savages is one of the necessary accompaniments to the successful negotiation of an Indian treaty, and to plead that we had already eaten sufficient was useless, for that is a thing incredible to an Indian, who always carries with him an appetite proportioned to the quantity to be eaten and the opportunities of doing so; and let the latter come as often as it may, it invariably finds him prepared.

After some consultation, and seeing no remedy, we left the lodge, and followed our little guide through the intricacies of the village, to the dwelling of the Long Hair. When we entered he was sitting upon the ground, and motioned us to a seat upon some dirty cushions of undressed hide, which had been placed for us by one of his wives.

He was a stern, gloomy looking man, with an anxious wrinkled brow, a mouth like iron, and an eye like fire: he evidently made efforts to be sociable; but it was not in his nature; and during the whole feast, the stern unbending character of the Indian warrior was continually peering out from beneath the show of hospitality. He urged us to eat,

and he even attempted to smile; but it more resembled the angry snarl of a wild cat, than the outpourings of any pleasurable emotion. In short, we liked him not, and hurried through our feast as soon as possible. When we had finished, and while a number of the party were smoking, in turn, from a large red stone pipe, which the Chief passed around, Dr. M——, the physician attached to the party, rose up and slowly sauntered around the lodge, until he observed a small bundle of bones and skin, which hung from a pole crossing the centre of the lodge. Curious to know what it might contain, he reached out his arm to take hold of it,—from the moment that he had left his seat, the brow of the chief had darkened, but he said nothing; contenting himself by narrowly watching the motions of his guest,—but no sooner had he touched the bundle, than the effect upon the frame of the Indian was like an electric shock: he half started from his seat; the veins on his forehead swelled like whipcord; and his eyes shot fire—while, with clenched fists and extended arms, he shrieked out something between a yell and an imprecation, upon the head of the astonished transgressor.

The secret was soon explained by the frightened interpreter. The bundle that had attracted the curiosity of the Doctor, was the "medicine bag" of the lodge; and by changing its position, he had been guilty of one of the greatest outrages which could have been inflicted upon the superstitious feelings of an Indian—and at another time, might have paid dearly the forfeit of his rashness. As it was, at the earnest solicitations of the interpreter, he resumed his seat, and the anger of the chief passed away. Shortly after this, another courier arrived to invite us to a third feast; and taking our leave, we followed him to the lodge of this other chief. This feast was exactly the same as the former; and ere we had finished, invitation after invitation came pouring in upon us, until after visiting about ten or fifteen lodges, one after another, the different members of the party gave out, and returned to the abode of the chief.

Upon our return, Mr. E—— assembled the different warriors, and after some consultation, the following day was appointed for holding a Council, to agree upon the terms of the treaty.

When this had been settled, the Chief turned and spoke a few words to the heralds, who immediately started through the village, proclaiming to the nation the time appointed for the approaching Council.

While Mr. E. was thus engaged, the rest of the party had drawn together around the fire, and were discussing the different events of the day, when their attention was attracted by the motion of the bearskin, forming the inner door of the lodge, which was slowly raised, and a female stepped timidly from the passage into the interior, and moved rapidly, and evidently with a desire to escape observation, into the darkest part of the lodge. Her whole appearance bespoke her a stranger. She was beautiful; and though a fearful being, she moved with the step of a queen among the wild horde around her. She was the wife of the Keoway Indian, and her dress was of a richness agreeing with his own. A bright band of silver was fastened around her neck, a small jacket of scarlet cloth, the spoil of some pillaged caravan, edged with silver lace and beads, was secured around her waist and breast, with scarlet ribands, and a long garment of blue cloth enveloped the rest of her form. Like her husband, she wore medals of silver upon her breast, and bracelets of the same upon her wrists; her moccasins, also, were

* Every lodge in an Indian village contains what is termed its Medicine Bag, which is hung up in the most conspicuous place, and regarded with the greatest veneration, not only by that individual family, but by the whole tribe. Little is known of their contents, as they are seldom opened, and always with the greatest formalities, while the greatest care is observed in excluding strangers, whose presence or interference is regarded as a certain source of future misfortunes.

† These heralds are self-elected, and are composed of the oldest men of the village, who having spent their younger days in war, now solace their old age by boasting of what they have done, and by occasionally running through the town to spread the orders of the Chief. When no such service is required, they amuse themselves by stalking around the village, yelling out advice to the young men, with voices that might be heard at the distance of a mile, but which, as far as I was able to judge, was attended to about as much as if it had never been uttered.

more finely ornamented than those of the Pawnee women, who were seated around, and who were engaged in offering to her all those nameless civilities due to a stranger and guest.

From the moment of her entrance into the lodge, she had been the object of attraction to all eyes, and finding that it still continued, she withdrew into one of the berths, and dropping in front of her a screen of grass matting, she remained there for the rest of the day.

FOREIGN ITEMS.

The late Miss Frances Wright, who rendered herself so notorious in the United States by the extravagance of her opinions, has taken to herself a husband, and is lecturing in London under the name of Madame Darusmont.

A German translation of the pamphlet entitled the *Reform Ministry and the Reformed Parliament* has been published at Carlsruhe; it is from the pen of Mr. Maurice Bernays, and has been circulated all over Germany.

A panoramic view of the city of New York is at present exhibiting in London. The point of view from which the picture is taken is the Park, and it includes the Broadway, the Bay, with its islands, and all the most striking objects in the neighbourhood of the city. The execution of the picture is unusually good.

Poor Debtors.—At the last meeting of the Society for the Discharge and Relief of persons Imprisoned for Small Debts, fifty-five poor debtors were set at liberty at the society's cost. During the last year this society has liberated 152 debtors, at an expense of £348 7s. 5d. As the whole costs of the society are included in the sum, the debts for which these unfortunate persons were deprived of liberty cannot have amounted to much more than forty shillings! By the Attorney General's new bill abolishing imprisonment for debt, except in case of fraud, the operation of the benevolent society will in future be rendered unnecessary.—[London paper.]

Madame de Stael and Sir James Mackintosh.—The genius and popularity of English living poets, the high estimation of the art, the marvelous events and extraordinary excitement of the time, the influx of distinguished foreigners from the different countries of Europe, rendered certain circles in London brilliant beyond example. Lord Byron was now at the height of his eccentric career; and Madame de Stael, after having paraded herself and her grievances, during ten years, from city to city on the continent, came to London for the purpose of gathering homage through every gradation, from Grub-street to Holland House. Sir James Mackintosh squandered his mornings, and evenings, and his faculties on those dazzling circles. He did the honors of the genius of Madame de Stael; he escorted, introduced, and exhibited her; he was himself among those whose acquaintance was sought by strangers, as one of the leading intellects of his nation: his presence was thought necessary wherever distinguished talents and the best company were combined for social enjoyment or for ostentation. But what were those frivolous successes of society, those perishable vanities of an hour, compared with the sacrifice of so large a portion of the small compass of human life, which might have been devoted in the solitude of his cabinet to the production of lasting monuments to his reputation? The only remains of his labors at this period are a few occasional papers in the Edinburgh Review. Of his contributions to this publication some obtained a certain celebrity, and were known to be his; others are less known to the general reader, and were not read as his beyond the literary circle of London.—[Life Sir J. Mackintosh.]

Sagacity of a Newfoundland Dog.—The Asia was one of the fastest ships in the fleet, and we stretched away to the westward for several miles, till a gun from the Commodore gave us notice to close. We had seen nothing of the boat, but we saw a strange schooner, Yankee-rigged, that was standing towards the rocks, and we hoped that if the long-boat was yet in existence, there would be a chance of her being picked up by the schooner, though the general idea was, that she had gone down, and every soul had perished. We had scarcely wore ship for the purpose of joining the convoy, when a dense haze obscured them from sight; and as evening was closing in fast, every officer was stationed in different parts to keep a look-out. We had retraced about half our distance, and the passengers were conversing in melancholy mood upon the events of the past night, and the probable fate of the long-boat, when a noble Newfoundland dog, that had lain sleeping in

deck, suddenly raised his head, and gave a short growl. The Captain was pacing to and fro with the chief mate, but stopped near the animal, and addressing it, said, "Halloo, Nep! what's the matter with you, old boy?" The creature wagged his long bushy tail at hearing his master's voice, and then composed to slumber again; but in less than a minute he resumed his growling, and raised himself upon his fore-paws. "He hears something beyond our knowledge," exclaimed the Captain: "up, Nep, up my boy, and see to 'em!" The animal at first rose lazily, stretching his limbs and shaking his coat, but in an instant he stood immovable in the fixed attitude of attention, and then sprang away upon the poop-ladder, running from side to side, and barking most vehemently, till at last he took his station to windward, and seemed perfectly furious. "We cannot be within six miles to the fleet," said the captain, "and yet I am confident there is something near us. Weather cat-head there, do you see or hear anything to windward? Silence, Neptune—down, boy! down!" and the animal became perfectly tranquil, wagging his fine tail, and rubbing his head affectionately against his master's hand. The officer on the lookout replied in the negative, as did also several others who had cautiously looked round, and attentively listened. "I'll stake my existence on the dog's sagacity," said the captain, addressing the chief mate. "By heavens! it may be the missing boat!—haul up the main sail and square the after-yards: keep her course quarter master, till I tell you to luff to the wind, and let there be silence fore-and-aft." The orders were immediately and punctually obeyed, and then the captain, patting the head of the huge animal, exclaimed, "Now, Nep, we must trust to you, old boy; look for 'em, Nep! seek 'em out!" The dog whined with a languid playfulness, as if satisfied that he had awakened attention, when there arose a low, hollow moan, that seemed like a heavy groan, issuing from the very bowels of the ocean. The ship, though moving through the water, was greatly retarded by the shivering of the after-sails, and the dashing noise occasioned by her velocity had ceased. "Folkstie, there," cried the captain, "do you see anything on the weather-beam?" "No, sir," replied the officer, "but there was a sound came down upon the wind just now—though I fear—" he stopped short, but added in a whisper—"it was no living creature uttered such a groan as that!" "The boat—the boat, Nep!" said the captain, patting the dog, "look out for the boat, sir." The animal raised his fore-paws, laid them on the rail, and crouching his head upon them, looked intently to windward, moving his ears rapidly. In a few seconds he gave a shrill howl, and then barking, jumped down, and then fawned upon his master. "Lanterns in the fore and main rigging!" shouted the captain; "clear away a gun there, forward; and Mr. —, burn blue lights," when, caressing the dog, he added, "There my good Neptune, see to 'em, lad—look to 'em." Neptune appeared to comprehend what was said to him, for jumping on a coop, he snuffed the wind and fixed his eyes steadfastly about a point abaft the weather-beam. The lanterns were displayed, and blue lights sent forth their clear blaze, when again that hollow moan was heard, and the dog, with loud barking, leaped from his station, and fawned upon the captain, who exclaimed, "Brace the yards sharp up—aboard main tack; and, quarter-master, keep her clean full and by;—at all events, we'll see the end of this!" The sails were nicely trimmed, and the gallant ship upon a bowline bent to the breeze, and dashed the spray from her bows. Blue lights were still burnt occasionally, the lanterns were shown abaft, and in half an hour the ship was hove in stays, and soon was reaching away on the star-board tack. In another half-hour (for the captain timed it with his watch) the mainsail was hauled up, and the after-yards were in the act of being squared, when the officer at the weather cat-head exclaimed, "A boat to windward—board on the weather-bow!" Every eye was instantly directed towards the spot, and there was visible amidst the gloom a small dark speck; but at the same moment was heard the sound of many voices simultaneously shouting, and warm congratulations were exchanged among all classes on the deck, as there now could be no doubt that it was the missing party. The main and mizen topmasts were thrown to the mast; the small cutter was lowered from the quarter and sent away to tow the long-boat alongside, and in another half-hour seventy-six individuals, who, in all probability, would have otherwise perished, were safe upon our decks. —[Leaves from my Log Book.]

NEW YORK AND OHIO CANALS.—In consequence of a combination among the owners of the great forwarding lines on the New York and Ohio Canals, by which the rates of transportation from Albany to Buffalo were advanced from 67 cents per 100 lbs., to 82 cents per 100 lbs., and the good effects of the reduction of tolls on the canals thereby counteracted; the Canal Commissioners of Ohio, at a meeting on the 21st of July, ordered that hereafter double rates of toll shall be charged on all goods upon which the charge for transportation exceeds the following rates per 100 lbs., viz:

From New York city to any place on the Ohio Canal	On heavy goods.	On light goods.
Between Cleveland & Akron (inc. the latter), do.	\$1 27	\$1 41
Akron and Massillon, do.	1 34	1 48
Massillon and Trenton, do.	1 52	1 66
Trenton and Dresden, do.	1 61	1 75
Dresden and Newark, do.	1 65	1 79
Newark and Carroll, do.	1 73	1 87
Car. & Colum. or Circleville do.	1 80	1 94
Circleville and Chillicothe, do.	1 83	1 97
Chillicothe & Portsmouth, do.	1 86	2 00

I certify the above to be a true copy.

Attest—L. A. LAPHAM

Sec'y Board Canal Com.

Canal Commissioners' Office,
Columbus, July 23, 1834.

The Duke of Northumberland has presented the proprietor of the Surrey Zoological Gardens with the Leucoryx antelope, brought by Lord Prudhoe from Dongola. This rare and beautiful animal is about the size of a small horse, of a pure white color, and its horns are three feet in length. It is the most celebrated of all the antelope genus, and is supposed to have given the ancients the idea of the unicorn, such as it is painted on the Royal Arms of England. These animals are represented on many of the Egyptian monuments, but are only found in Dongola and other provinces of Central Africa.



ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market at (opposite Post Office.

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better success can be done in the execution.

Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 d RM&F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon dale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, January 29, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glass made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J21 d.
corner of Maidenlane.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch.	Flat Bars in lengths of 14 to 16 feet counter sunk holes, ended cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do.	do.
40 do. 1 1/2 do.	do.
800 do. 2 do.	do.
800 do. 2 1/2 do.	do.
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d71meowr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

Germantown and Norris Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleeker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
m2